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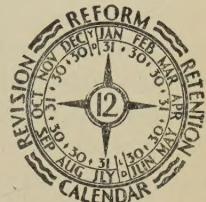
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PARLIAMENTARY PROGRESS

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In both England and America, Mr. Wilson is well known and highly regarded both as author and lecturer. After his graduation from Cambridge University he became a member of the editorial staff of the London Daily News, a connection which continued for twenty-one years and culminated in his assignment to New York as head of the American bureau of that journal. More recently he has been a special correspondent for the New York Times, his writings on international subjects appearing constantly in the magazine and feature sections. He is the author of a dozen books and many magazine articles.

IN the advancement of a reform, there is a certain order of progress. At the outset, a handful of pioneers are interested and have the courage to face the inertia that is always an obstacle to improvements in the organization of society. They endeavor to persuade public opinion that a change would be advisable and that the benefits to be derived from such a change are worth the trouble involved.

But there comes a point when the movement emerges out of what may be called the pamphleteering perspective and into the parliamentary field. The statesman steps in and, persuaded at last that the time for action has come, he listens to all that is said to him and so arrives at a conclusion as to what that action shall be.

After years of patient education and research, calendar reformers

are approaching this position.¹ To put forward this or that idea, however excellent in logic, is no longer enough. The value of every idea has to be appraised by the probable reaction to it on the part of governments and legislatures. The reformer must put himself in the position of a chairman of committee facing Congress or of a minister addressing the French Chamber of Deputies or the British House of Commons.

The experienced parliamentarian recognizes that legislatures are usually overworked. In compiling his brief for Calendar Reform, he would not attempt, therefore, to elaborate the many historical and scientific details of this subject which fascinate those who have qualified themselves to be regarded as experts. Nor would he overburden his difficult audience with elaborate quotations from the records that are rapidly accumulating around the proposals to reform the calendar. But in citing basic documents—the reports of American organizations, the report of the British Parliamentary Committee, and the discussion of calendar reform by the League of Nations, he would emphasize the general agreement on one vital premise, namely, that no nation and no family of nations—no religion, whether Christian, Jewish, Moslem, Hindu, or Confucian—no church, whether Protestant or Catholic—no industry, whether agricultural, manufacturing, or distributive—no university, college, or school—no profession, medical, legal, financial, or educative—would, if devising a calendar for the first time, so much as consider the adoption of the calendar that we actually have. Nobody starting afresh in such a way would dream of subjecting mankind to the anomalous irregularities that accompany the long August due to Augustan vanity,² and the short February with the other elements of confusion.

This unanimity of judgment on the existing method of measuring time, clears the ground and tactically places calendar reformers in a strong position. Responsible authorities are prepared to listen to what they have to say, and the adroit parliamentarian will insist that agreement is by no means confined to preparatory criticism. Over a wide area of constructive discussion, there is no less manifest a large measure of common ground.

We begin with the broad fact that calendar reformers, to whatever school they belong, recognize that they are building upon foundations laid, deep and secure, in the past. The big decisions were undertaken long ago. By those decisions, there was stabilized with sufficient accuracy what we call the solar year and this solar year is accepted without

¹ Twenty-nine nations have appointed committees to confer with the League of Nations on calendar reform. As long ago as 1914, a bill was introduced into the British Parliament at the instance of the International Chamber of Commerce to revise the calendar. In 1928, Great Britain passed an act authorizing the government to fix the date of Easter according to international agreement.

² In 8 B. C. Augustus Caesar changed the calendar. He wished August—the month during which he was born—to have as many days as July, the month that commemorated Julius Caesar. Augustus therefore transferred a day from February to August and made other minor alterations in the Julian scheme.

question by calendar reformers, all of whose contemplated changes lie within that fundamental and comprehensive unit.³ In no quarter need we anticipate any attempt to return to the lunar month of 29½ days as the basic unit for measuring time.

It means that, to this extent, the relation between the solar calendar of the western world and the traditional use of lunar calendars by the Hebrews and Moslems would be unaltered in any proposed revision.⁴ Also, it means that the historian, the astronomer, the statistician, in so far as he makes use of the solar year as a whole in his archives and his calculations, need anticipate no disturbance of continuity from the revision of the calendar.

As a background, the long struggle to establish the solar year cannot be ignored and it is instructive in two ways.

In the first place, certain of the earlier reforms of the calendar were far more drastic than any amendments necessitated today. In 325 A.D., there was held the Council of Nice at which date the vernal equinox fell on March 21. By the year 1582, the calendar had, like a clock, gone so fast that the vernal equinox fell on March 11. By his Bull, Pope Gregory XIII, therefore, annulled no fewer than ten whole days. No such chronological surgery is now in contemplation.

Secondly, we learn the importance of realizing that calendar reform is an international, as well as a national proceeding. The Bull of Pope Gregory XIII was not accepted by England. Dates had to be reckoned, therefore, by old style and new style and it was only in 1752 that England fell into line with other countries, by which year the discrepancy to be corrected had increased to 11 days.⁵

The inconvenience of that failure to secure uniformity is illustrated by Professor Macaulay Trevelyan's preface to his recent book entitled *Ramillies*. The distinguished historian writes: "I employ the O.S. for home affairs; and for affairs outside England I use the N.S., or put the double date, Aug. 2/13."

Professor Trevelyan draws attention to another difficulty, no less disconcerting to the historian and annalist. The year in England used to begin in March. It meant, in Professor Trevelyan's words, that "March 24, 1701, was followed by March 25, 1702." Today, we are taught that Queen Anne ascended the throne on March 8, 1702. "Our ancestors," writes Professor Trevelyan, "called it March 8, 1701."

³ The Egyptians determined the length of the solar year, 365.242 days, with remarkable exactitude. The Chaldeans depended rather on the moon.

⁴ At the present time, inevitably, dual calendars are observed. For purposes of business and record the western calendar is in effect universal. But Jewish and Islamic feasts are celebrated according to tradition, and Japan though modernized retains certain traditional festivals.

⁵ An interesting controversy arises over the birthday of George Washington. He was actually born on February 11, and observed this date during his lifetime. The change in the calendar altered this date to February 22. This change took place during Washington's lifetime and was only gradually accepted by the American colonies. The alteration also affected the year of Washington's birth. He was born Feb. 11, 1731 (Old Style) which became Feb. 22, 1732 (New Style).

It is essential that calendar reformers shall avoid any danger of appearing to overlook the importance—here disclosed—of maintaining, even during the transition, the utmost measure of chronological uniformity.

The precise length of the solar year is 11 minutes less than $365\frac{1}{4}$ days, each day consisting of 24 hours. The calendar year is thus fixed at 365 days with a certain adjustment. Every fourth year is a leap year with an extra day. But in every four centuries, three leap years are omitted. The whole of these carefully-worked-out arrangements for keeping the calendar in time with the sun are scrupulously respected in the various schemes of calendar reform; no change is necessary and none is proposed.

The problem that faces the calendar reformer is thus definite and restricted. He has a normal year of 365 days and a leap year of 366 days. He has to divide those years into shorter periods—weeks, months and quarters, whatever they may be.

What first confronts the calendar reformer is the fact that, analysed by simple arithmetic, the numbers 365 and 366 are awkward to deal with. Split into factors, 365 is five times 73. There is no proposal to return to the 5-day week attributed to the Assyrians⁶ nor to the twice 5- or 10-day week of revolutionary France. In a calendar the number 5, as a basis for the week, is thus useless—and similarly 73 is too long for any reasonable month and too short for any reasonable quarter.

A leap year of 366 days is no less difficult to divide. It factorizes as 2 by 3 by 61 and is thus unsuitable for a calendar based on weeks of seven days, months and quarters.

On the other hand, a year of 364 days offers certain obvious and, indeed, essential advantages. Factorized, the number 364 equals 7 by 4 by 13 and such a year is thus divisible into 52 exact weeks of seven days.

When he submits the case for calendar reform, the parliamentarian is thus able to state that among those who have studied the subject, there is no difference of opinion over the first step to be taken. In any revised calendar, the basis of subdivision into weeks, months, and quarters—whatever that subdivision may be—must consist of 364 days, nor is there any doubt as to the only means whereby this result must be achieved. In every ordinary year, the calendar must be allowed to take a vacation of one day. In a leap year, the vacation enjoyed by the calendar must be two days. It means that while the solar year continues to be 365 and 366 days, the calendar is on duty, as it were, for 364 days.⁷ Of course, accuracy with the solar year is scientifically a requisite for any calendar.

⁶ The five-day week used by Hittites and Assyrians in 2200 B.C. is indicated by clay tablets found in Alishar by Dr. H. H. Von der Osten, representing the Oriental Institute of the University of Chicago.

⁷ In this proposal there is nothing novel. Egyptians divided the years into 12 months of 30 days each, which left them with 5 non-calendar days. These were devoted to festivals and were fixed by the priests.

There are various ways of arriving at the result. Obviously the simplest would be to allow the year to continue until the end of December, as at present, and then to give everybody a holiday of 24 hours before beginning the next year on January 1st. For leap year, a similar holiday might be granted at the end of June. In principle, it does not matter what these new holidays are called. The names Year Day and Leap Day have been suggested.

The proposal for a Year Day and Leap Day, to be reckoned outside the calendar year of 364 days, is a challenging change. It will only be adopted internationally after a full and careful examination of all its bearings. What needs to be clearly understood here is the basic fact that all constructive plans, responsibly submitted for consideration, are founded on the solar year thus adjusted to 364 days. For the sake of elucidation let us assume, then, that such a year has been approved in principle, and let us proceed to ask how this year should be divided into shorter periods.

There is no dispute over the present division of the calendar year. In its preposterous absurdity it is indefensible. To begin with, there is the difficulty, without an effort of memory, to bear in mind which months include a given number of days. As the rhyme has it: "Thirty days hath September, April, June and November. All the rest have thirty-one, saving February alone."

This irregularity of the months vitiates many calculations. February, the shortest, has 28 days in a normal year. But the seven longest months have 31 days. It is a discrepancy of 10.7 per cent, which is enough to stultify all the more accurate statistical, financial, and industrial averages.

If we take the week days in the months, the discrepancies are emphasized. In February, there must be 4 Sundays, which leaves 24 days of work. In a month like July or August, with 31 days, there may also be only 4 Sundays, which leaves 27 days for work. That is a discrepancy of 12.5 per cent.

Even the quarters fail of regularity. They are as follows:

	Days		Days		Days		Days
Jan.	31	April	30	July	31	Oct.	31
Feb.	28	May	31	Aug.	31	Nov.	30
March	31	June	30	Sept.	30	Dec.	31
	90		91		92		92

It ought not to pass the wit of man to devise some "time-stick" more logical than these ridiculous and entirely traditional elasticities.

As to the end that we are seeking, there is thus no debate. All of us are agreed that the months of the year shall be equal, each to the other, or as nearly equal as possible. What we have to consider is therefore the interesting but not difficult question whether or to what extent mensal equality is attainable.

The number 364 is equal to 13 times 28. By simple arithmetic, it is thus evident that a calendar year of 364 days might be rearranged as thirteen months of 28 days apiece, and in certain quarters, the proposal for a 13-month calendar has aroused enthusiasm.⁸ It is the only calendar in which the months would be equal each to the other. It is the only calendar in which each month would contain exactly four weeks. It is the only calendar in which each month would begin with the beginning of a week and end with the end of a week. It is the only calendar in which the month, as it were, is hebdomadally self-contained. But it is a calendar, and this is the crux of the matter, where the year is not divisible, the quarters no longer exist, and the accustomed seasons are dislocated.

⁸This is the plan proposed by the International Fixed Calendar League, which owes much to the initiative and energy of Moses B. Cotsworth. He interested the late George B. Eastman in calendar reform. His criticisms of the present calendar have been widely published.

In a situation like this, the parliamentarian appears to be a somewhat disappointing person. The enthusiast calculates arguments for and against a proposal as if these arguments were equal in strategic importance. But the parliamentarian has learned by experience that arguments considered from the larger point of view and broader aspects far outweigh the restricted arguments of specialists. He has seen how, over and over again, excellent reforms have been definitely delayed or frustrated altogether because they were too localized in their benefits.

A calendar is not only used by bankers, industrialists, and statisticians. It is an instrument in the hands of the people as familiar as the spade to the peasant, the broom to the housewife or the scales to the butcher. To countless millions of families, there are anniversaries, sacred, domestic and national, that are observed with emotion, respect and reverence, which have become a second nature or subconscious instinct, impossible to eradicate and folly to ignore. These memories, susceptibilities, and even superstitions pervade nations and are the very atmosphere in which the parliamentarian lives and moves and has his being. Calendar reform, if it is to come to anything, must never be regarded as a cut-and-dried scheme, submitted to a few big business men and eminent economists, whose say-so is to decide the matter. It is one of those affairs in which all people have a voice, in which ignorance claims the same vote as knowledge, poverty as wealth, women as men, young as old, the religious as the secular. Our span of life—three score years and ten—is divided, like the face of a timepiece, into months, weeks and days, nor is it the gold and jewels on the case of a watch that have determined the movement of the hands. However expensive, however cheap a clock may be, it must keep the same time, and measure that time by the same standards.

It is thus not as a theorist but as a practical politician that the parliamentarian approaches the suggestion for a 13-month year. It is his business to be interested not only in ideas, however intriguing they may be, but in the endeavor to carry them into effect. He is still anxious to avoid any proposal which would tend to divide the forces at his back and stir up latent opposition that would be difficult to overcome. He is still mindful that calendar reform must be international in its scope and not alone national, however important any particular nation may be.

The initial and spontaneous answer of the parliamentarian to the 13-month proposal is thus that the issue settles itself. If calendar reform means changing the number of months in the year, and especially if it means changing that number to 13, it is not much use talking about calendar reform. In the lifetime of most of us living, at any rate—so the parliamentarian is bound to conclude—we cannot expect any international or effective national agreement over such a disturbance of tradition and convenience. Unless the new calendar contains 12 months, it

becomes contentious, and in the nature of things unacceptable to civilization as a whole.

We do not need to enter at any length into the curious dislike of any association with the number thirteen. Many people attribute this superstition to the memory of the Last Supper where the Saviour sat at the table with twelve apostles of whom one was Judas Iscariot. There are not many hostesses who, even in these days of enlightenment, would ask a company to sit thirteen at a table.⁹ To insert a thirteenth month into the calendar would be regarded by countless people as an infliction of ill-luck, nor would this be the whole story. The 13-month calendar contains thirteen Fridays the thirteenth, nor does any thirteenth day fall in any month except on a Friday. People who have risen superior to such coincidences may smile. But the parliamentarian has to represent and conciliate people who have not risen thus superior and never will.

The objection to thirteen is not merely superstitious. In his *Outline of History*, page 98, Mr. H. G. Wells writes: "Neolithic man . . . was beginning to use tallies, and wondering at the triangularity of three and the squareness of four, and why some quantities like twelve were easy to divide in all sorts of ways, and others, like thirteen, became impossible. Twelve became a noble, generous, and familiar number to him, and thirteen rather an outcast and disreputable one."

In Funk and Wagnall's larger dictionary, there are exhaustive lists of weights and measures and currency, running to many columns of close print and covering every standard of such reckonings of which we need take account, whether ancient or modern, eastern or western, civilized or barbaric. We do not find the record of one important instance, anywhere in the world at any time, of thirteen serving as a numeral in such tables.¹⁰ A 13-month calendar would be, so it appears from this work of reference, the first use of this number for reckoning, and it is curiously supposed that such use would be universal. At best, this use could never be other than local and, as we are bound to anticipate, temporary in its duration.

The number thirteen is a prime. This means that it cannot be divided into factors. Hence, the advantage claimed for the 13-month calendar is depreciated by a certain disadvantage. The 13-month year, by its very nature, is a year in which the four quarters of the year are sacrificed, and that sacrifice, whatever importance in logic we may attach to it, is certain to be stoutly resisted all over the world.

One industry, for instance, will be directly affected and very adversely. Magazines of every kind are published by the month. Their finances, in which advertisements play a large part, have been arranged on the supposition that twelve issues are published in the year. A thirteenth issue would represent an additional expenditure without any guarantee of a corresponding addition to income.

It is also a circumstance, not to be ignored, that all businesses which render monthly accounts would be put to the trouble and expense of an extra rendering once a year. Quarterly reviews, literary, scientific and scholarly, are more numerous than we realize. To abolish the quarter¹¹ would be, in their case, to create an anomaly that does not today exist. Presumably they would have to be published at irregular intervals. The verdict against 13 months in the year must be, then, decisive and final. We are driven to conclude, not so much that the 13-month year is worse or better than the 12-month year, but that the 12-month year is alone worth discussing. We must make up our minds that our calendar reform must be this or nothing.

About the number, twelve, there are certain fundamental and unique qualities. It is the smallest number that factorizes in two different ways—twice six and three times

⁹ On certain steamships there is no stateroom numbered 13. Many American skyscrapers omit the 13th floor. A recent motion picture, *The Thirteenth Chair*, exploited this superstition; and in both fiction and the theatre, the number 13 is frequently used as an element of melodrama.

¹⁰ In Siam an oil measure called the bota equals 26 almude. A Hebrew weight called the kichkar equals 26 maneh. A wool measure in England called the wey equalled $6\frac{1}{2}$ tod. In Ireland there used to be a coin valued at 13 pence which was known as the "thirteen" or "thirteener." A baker's dozen of 13 loaves is not pertinent, because it arises out of an arrangement to give an extra advantage to the purchaser.

¹¹ There is an extensive use of the quarter for settling financial obligations. Quarterly payment of interest and dividends is universal, and in many countries the quarterly division applies also to rents, wages and a wide variety of contracts.

four. The four major points of the compass determine direction and three is the essential to triangular inclusion of space. The associations with the number twelve are thus ineradicable. There were twelve tribes of Israel. There were four times three gates to the City of God, and the Tree of Life bore twelve manner of fruits each in his season.

The one rival to twelve is not thirteen but ten, which number—being twice the count by fingers on the hand—is the basis of a decimal system, applied to currencies, weights and measures. But we do not hear of any important authority making so bold as to extend that system to the clock—still less, to the calendar. It is twelve that dominates chronometrical statistics. There are twice twelve hours to the day and twelve divisions, therefore, on the face of a watch. There are five times twelve minutes to the hour and five times twelve seconds to the minute. Scientists, notably navigators, must constantly reckon with 360 degrees, in which the number 12 is essential.

The question to be decided, if we reduce it to its essentials, is thus as follows: the calendar must contain 12 months. Is it possible, then, to observe this condition and yet to effect reforms in the calendar that are worth the trouble? The best answer to that question is to set out a 12-month calendar, as reformed, and to see precisely what improvements are to be noted therein. If we study The World Calendar, we arrive at the following conclusions:

First, we are able to divide the year into four exactly equal quarters, each of 91 days. Each quarter includes precisely 13 weeks. In every case, it begins on a Sunday and ends on a Saturday. So far as the quarters are concerned, therefore, the reform eliminates all irregularities and achieves the desired objective, one hundred per cent.

Second, each quarter consists of three months, respectively of 31, 30 and 30 days. This reduces the discrepancy between the months, roughly, to one-third of what it is today, or 3.3 per cent; and between corresponding months in each quarter there is no discrepancy at all. The year falls into four groups of three months each, as follows:

A: January	April	July	October
B: February	May	August	November
C: March	June	September	December

Months A are exactly alike; so are months B; and months C.

Third, we are able to see that in the four months, January, April, July and October, which begin a quarter and have 31 days apiece, there are 5 Sundays, which leaves 26 week days. The other eight months, with their 30 days apiece, have only 4 Sundays, which, again, leaves them with 26 week days. While retaining the 12-month calendar, it is thus possible to arrive at a "working month" of 26 days, uniform throughout the year. The discrepancy between the months is reduced to four days only in the

year, all of which days are Sundays. Between working months, there is no discrepancy at all.

Fourth, any day in any given month—say April 17, or September 23, or December 7—always falls on its own assigned and unalterable day of the week, whatever the year may be.¹²

These results, the parliamentarian submits, are substantial and worth while. They eliminate in large measure the anomalies that complicate the calendar, as now arranged.

The trouble involved in making changes is reduced to a minimum:

(1) The Calendar can be printed, as hitherto, in a block—three months by four—nor is there a thirteenth month with nowhere to put it.

(2) The names of the months remain with their many literary and poetic associations, nor need anybody be afraid lest his birthday be transferred to a new month called “Sol.”

(3) The number of days changed is only seven out of 365. February receives 2 additional days. March loses one day. April gains a day. May and August each lose one. The last day of December becomes Year Day. From February 28 to September 1, dates move but one or two days from their present positions; that is the sum total of adjustment.

The case for a calendar reform, thus simple and thus reasonable, is, the parliamentarian submits, demonstrated; and on the grounds as stated, he claims the verdict.

It is, however, unwise in any legislative procedure to ignore opposition, whatever may be the quarter in which it arises. It is thus with sympathy that the parliamentarian approaches certain criticisms which, as he cannot but think, arise out of a genuine misunderstanding.

If the reform had affected only the arrangement of the months in the year, it would not have aroused even this measure of controversy. But we have to face the fact that it does affect the arrangement of the weeks in the year. Year Day and Leap Day, it is alleged, lying outside the calendar, mean in effect that the corresponding week is lengthened to eight days, and an 8-day week is a serious, and to some people, an unwelcome innovation.

Let us clear the ground by making it plain that, according to the view of all calendar reformers, man has inherited and is fortifying his right to one day of rest in seven as an ordinance indispensable to the health of

¹² This means that all annual festivals and holidays will fall always on a definite day of the week and of the month. For instance, in the United States, the list of holidays would include: New Year's Day, Sunday Jan. 1; Lincoln's Birthday, Sunday Feb. 12; Washington's Birthday, Wednesday Feb. 22; Memorial Day, Thursday May 30; Independence Day, Wednesday July 4; Labor Day, Monday Sept. 4; Columbus Day, Thursday Oct. 12; Election Day, Tuesday Nov. 7; Thanksgiving Day, Thursday Nov. 30; Christmas Day, Monday Dec. 25. It will be seen that a perpetual calendar offers in any country a stabilization of holidays that is likely to produce several long week-ends annually, with corresponding recreational opportunity. It has been suggested that the tendency would be in many countries to adjust the legal holidays so as to have them fall permanently in the week-end, thereby benefiting the welfare and happiness of the people.

the worker and to the amenities of society. In this sense, calendar reformers are as Sabbatarian as the most rigid of those communities which are described by that term. Any proposal to reduce in any way the allotted reserve of days for rest, recreation and worship, whether once or twice a year, would be resisted by calendar reformers as anti-social and contrary to the most valuable traditions of organized religion. There is no kind of sympathy with the French Revolutionary attempt to lengthen the week to ten days or, indeed, to lengthen the working week at all. On the contrary, Sabbatarians would find that, in resisting any such harmful change, calendar reformers would be among their eager and loyal allies.

But is there any such social or religious reason why the one day rest in seven, ordained by the Divine Wisdom, and revealed to the Hebrew people, should not be increased, once or twice a year, to two days of rest in eight? That would be no limitation of God's ordinance or attempt to deprive man of an immemorial blessing. It would be a reverent acquiescence in and confirmation of the love that has been bestowed on man by his Creator in the establishment of a perpetual Sabbath.

For the vast majority of people, whether in Christendom or elsewhere, calendar reform thus offers a definite addition to Sabbatarian benefit.

Year Day and Leap Day fall at the conclusion of one week and the beginning of the next week following. They are thus extensions of what we call the week end, and may be compared with Whitmonday and August Monday which, in Great Britain, are observed as "bank holidays." There is no reason at all why they should not be dedicated to religious, national or international observance, and even to such a feast or fast as would emphasize some essential truth of a particular communion.¹³ The Sabbatarian bodies who today are suspicious of supplementary days, might find them an unprecedented opportunity for witness and commemoration.

The Sabbatarian may thus rest assured that calendar reform strictly preserves the seventh day of rest. Christendom as a whole observes that day as the first day of the week; the Jews and certain Sabbatarian bodies—chiefly the Seventh Day Adventists and the Seventh Day Baptists—observe the day as the seventh in the week; Moslems observe it as the sixth in the week. Under calendar reform, the whole world would be assured of 52 such "sabbaths," whatever the day of the week on which they fall.

There is a further point that can scarcely fail to be of interest to seventh day Sabbatarians, whether Jewish or Christian. In the reformed calendar, as proposed, every year and every quarter of the year opens with a week on which the seventh day of the month falls on a Saturday or

¹³ Several suggestions have been made for special observances to fall on Year Day. A Roman Catholic authority proposes that Year Day be dedicated to Christ the Worker, a feast many Catholics would like to see instituted, and that Leap Day be observed, every four years, to implore Divine Providence for the "Pax Romana" throughout the world. Friends of the League of Nations have suggested that Year Day should be observed as "Peace Day" or "Friendship Day"—an inspiring opening for every year. Another proposal is that it be called "Year-End Day," and be devoted to special observances of any suitable kind.

the Sabbath. That represents no disadvantage, but, on the contrary, an actual advantage for the sincere Sabbatarian over the present calendar in which these seventh days fall on different days of the week, according to the succession of the years.

The Sabbatarian objection thus resolves itself into one specific point. It is strongly insisted that, from time immemorial, the week has been continuous. Pope Gregory XIII may have cut ten days from the year but he did not interfere with this more ancient cycle of days which is held to have been handed to us from the primal week when the universe was created, as Bishop Usher believed, 4004 years before the birth of Christ.¹⁴ That cycle, so it is contended, would be broken if the Year Day and Leap Day were authorized.

Sabbatarians thus hold a distinctive and challenging belief. They are entitled to hold that belief. It would be doing them a grave injustice to suggest that they are unreasonable or intolerant. But they cannot be unaware that, in this particular respect, they form a small minority of the population and that the large majority also has its rights to consideration.

It is indeed not easy to see in what way the Sabbatarian is adversely affected. What exactly is his present position and what would be his position under calendar reform?

At this moment the Sabbatarian, whether Jewish or Christian, holds that Christendom as a whole has broken the seven-day cycle. The "sabbath" is no longer observed on the seventh day of the week but on the first. So strongly does the Sabbatarian disapprove of this breach with antiquity, as he regards it, that he insists on retaining Saturday as his day of worship, or, more accurately, the twenty-four hours between sunset on Friday and sunset on Saturday.

It means that already the Sabbatarian is sacrificing a weekday to the demands of his conscience, nor would calendar reform increase that sacrifice. On the contrary, there is one respect in which the sacrifice would be actually diminished. For in certain years, the strict Sabbath would synchronize with the calendar Sunday, and, during those years, there would be no sacrifice at all.

Certain Sabbatarians recognize the importance of a calendar year of 364 days and suggest that the extra days should, as it were, accumulate into a Leap Week which—when complete—would be cancelled. The proposal is interesting but complicated and the parliamentarian may be pardoned if he concerns himself solely with what is included in the term, practical politics. The leap week, involving a year of variable length, has

¹⁴ Without entering into controversy, it is only right to point out that the rigid traditional view is denied by all scientists whatever their attitude toward religion may be. It may also be asked whether the Jewish Calendar, originating in Egypt on the solar basis, was not brought under lunar influence in Chaldea. Rabbi Julian Morgenstern, the foremost Jewish authority, recognizes three different calendar systems as employed at different periods in ancient Israel.

been rejected by the League of Nations and by other responsible authorities, and there is no chance, so it would seem, of its general adoption.

The parliamentarian thus sums up the case for calendar reform:

(1) There is a real and preventable inconvenience due to the irregularities and the anomalies of the present calendar.

(2) It is possible to retain the solar year as now determined and so to arrange the months within it as to reduce these anomalies to a minimum.

(3) By authorizing an annual Year Day and a quadrennial Leap Day, the calendar year can be adjusted to 364 days, which is a number suitable for effective calendar reform.

(4) It is not necessary to divide these 364 days into thirteen months of 28 days, so destroying the quarter and abolishing the traditional twelve months of the calendar. Another and less drastic division would be, taken as a whole, at least as effective.

(5) Retaining twelve months, it is possible to arrange for equalization of the quarters as 91 days apiece, and for approximate equalization of the months themselves into cycles of 31, 30 and 30 days. Each month would contain 26 week days; and the only difference between them would be an additional Sunday in the first month of each quarter.

(6) Leap Day and Year Day may be said to lead to an eight-day week. But no "Sabbath" or Sunday is thereby destroyed. On the contrary, one day of rest in seven is increased once a year to two days of rest in eight.

(7) Among religious communions, taken as a whole, there is no objection in principle to calendar reform or to this particular scheme of calendar reform. The Roman Catholic Church has always asserted and at times has exercised authority to modify the calendar. In Great Britain, a bill authorizing a fixed Easter has been carried through Parliament with general consent.

(8) It is thus among strict bodies of Sabbatarians alone—Jewish and Christian—that there is misgiving. It is a misgiving based not upon anything in calendar reform that would destroy the Sabbath or weaken the observance of the sacred day. The objection is inspired solely by a belief that the traditional continuity of the Sabbath as the seventh day in every week would be disturbed by the intercalation of Leap Day and Year Day. The reply is that such minority of seventh day Sabbatarians are already out of touch with the secular calendar and that their difficulties would be increased in no way by the changes now proposed. Under calendar reform, there is no interference of any kind with the religious observances or non-observances of any communion throughout the world.

The parliamentarian thus submits to responsible public opinion in all countries that calendar reform, as here defined, is possible, that it offers a welcome opportunity for international cooperation, and that, when carried into effect, the only question will be why it was not adopted long ago.

ACTION BY EASTERN CHURCH

By ARCHBISHOP D. GERMANOS

Metropolitan of Thyateira, Exarch of the Oecumenical Patriarch, President of the Universal Christian Council

INTRODUCTORY WORD

By DR. S. PARKES CADMAN

The churches of the West are challenged by the Archbishop's following statement summarizing the attitude of the Eastern churches concerning calendar reform. Not a few of the leaders of the Western church have hitherto failed to see why they should be interested in this question save as it affects the matter of a stabilized Easter.

My friend, Archbishop Germanos, has not forgotten that throughout the centuries the Church has functioned in successive revisions of the calendar, and that its present form bears the name of a Pope. The Eastern Orthodox Church for which Archbishop Germanos speaks in this article has a membership of at least 140,000,000 Christian brethren, chiefly found in Russia, in the Balkan States and Central Europe. The Archbishop is a widely recognized and influential guide and director of this great communion. He was formerly a professor in the well-known Theological School of the Eastern Church located on the Island of Halki, near Constantinople, and afterwards became Archbishop of Thyateira with his See in London. His Grace has been identified with the Oecumenical movement from its inception. As one of the Presidents of the Universal Christian Council he not only ably represented his church, but brought her fellowship into closer and most beneficial relations with that of the Western churches.

He is the Representative of the Oecumenical Patriarch; and, as such, resides in London and acts for the Patriarchate in all matters of contact with the Western churches. Hence, what he offers in reference to calendar reform can be accepted as the expression of the mind of the Greek Orthodox Church on that issue.

Definite legislation may be expected in the Eastern Orthodox Church at the next general Synod or Pro-Synod, for which plans are now being made by the Oecumenical patriarchate. Archbishop Germanos in this article indicates the lines which such legislation may be expected to take. It is to be hoped that his clear and precise statement will stimulate similar studies in the Western churches.

IN THE matter of general calendar reform, the Eastern Orthodox Church has gone further than any other great church body (1) in agreeing to a general revision of the calendar; (2) in opposing any 13-month scheme of calendar reform; and (3) in adopting a perpetual 12-month equal-quarter calendar along the lines urged for many years in France, Switzerland and other countries.

The record of the Eastern Orthodox Church on this subject includes an official report which was published (August, 1931) in *Orthodoxia*, the official organ of the Oecumenical Patriarchate. This report is from the delegate who was assigned by the Oecumenical Patriarchate to represent the Eastern Orthodox Church in all international conferences on calendar reform. In his report he states that he, as the representative of the Church, has taken a definite position in favor of the 12-month equal-quarter proposal, and in opposition to the 13-month plan.

That his action had the approval of the Oecumenical Patriarch is suf-

ficiently indicated by the publication of his report in the official journal.

But because this publication is issued in Greek and of course has a very limited circulation, its contents have perhaps not received the attention from friends of calendar reform which they would otherwise have attracted. Therefore, for the information of those interested, it seems worth while to make an abridged translation of the report, which is prefaced in *Orthodoxia* by a brief explanatory paragraph which states: "We publish here a communication from Professor Eginitis, who has represented the Church for many years in international conferences on calendar reform. Professor Eginitis reports the general directions in which the question has now crystallized, and the basis on which the forthcoming international conference will discuss it."

The delegate's report says:

"Paris, June 23, 1931.

"Your Holiness:

"Answering the letter of Your Holiness of the 8th ult., I have the honor to report to you as follows:

"The special committee of the League of Nations on which I had the honor to represent the Church, and the Preparatory Committee which met recently in Geneva, have examined the various plans submitted to them and the opinions of the special national committees on Easter stabilization and general calendar reform, and have arrived at the following results:

"(1) With regard to Easter stabilization, the general opinion has been expressed, especially by trade and industrial bodies, that this ought to be done. Decision, however, must be left to the competent ecclesiastical authorities.

"(2) With regard to general calendar reform, many plans have been submitted, of which three have been adjudged worthy of attention and study: (a) a plan to equalize the quarters without establishing a perpetual calendar; (b) a plan whereby each quarter has one month of 31 days and two months of 30 days, with one additional day each year (two in leap years), these additional days to be outside the weekday sequence and without a weekday name; (c) a plan to divide the year into 13 months.

"The two latter plans, in providing for days outside the weekday sequence, aim to make any given month-day fall always on the same weekday. The second plan makes every quarter identical, the third plan makes every month identical. The 13-month plan succeeds in making a full equality of all the months, and is doubtless theoretically more complete from this viewpoint. But at the same time, it is very radical; it introduces 13 months instead of 12, and the resulting number of months is no longer divisible exactly into halves and quarters.

"The 12-month equal-quarter plan, on the other hand, gives a correspondence of monthdays and weekdays in quarterly periods rather than monthly. But it does not upset the universal habit of the 12-month year; it does not affront existing customs. It introduces approximate equality of months and full equality of quarters; it provides a perpetual calendar, and it makes every quarter exactly similar in weekday sequence. Finally, it offers greater possibility of general acceptance than the 13-month plan.

"Approval of the 12-month equal-quarter plan and of the stabilization of Easter has been expressed recently by the national Greek committee, and this opinion will be supported by the representative of Greece at Geneva.

"I myself, as the representative of the Church of Constantinople, supported the same opinion in the committee at the League of Nations.

"The opinion of the various churches, in regard to Easter stabilization, is that it can be successful, because it is not in opposition to any dogmatic or canonical principles. The date proposed for a stabilized Easter is the second Sunday in April. . . .

"I beg the blessing of Your Holiness and thank You for Your prayers, remaining Your devoted and humble servant, Dimitrius Eginitis, Archon Didaskalos of the Great Church of Christ."

In considering the general attitude of the Eastern Orthodox Church on calendar reform, it must be remembered that the Oecumenical Patriarch has not the power to legislate in such a matter, but merely to act as the head or president of the various autocephalous churches in Russia, Greece, Roumania, Jugo-Slavia, etc. An actually binding decision, either in regard to Easter stabilization or in regard to general calendar reform, would require action either by an Oecumenical Synod or by a Pro-Synod.

But the opinions of the autocephalous churches are fairly clear. There is no question of dogma involved. There has been no opposition to Easter stabilization, provided that it is based on a general agreement of all the Christian churches. There has been no adverse criticism of Professor Eginitis' report in support of calendar reform of the 12-month equal-quarter type.

It is not at all strange that the Eastern Orthodox Church should have taken a leading position among the great churches on these questions of calendar reform, for the Orthodox Church has itself been in the throes of adjusting its own church calendar during the past 15 years. And naturally the process of changing its feast days and holy days, in many countries, from the old Julian dates to the Gregorian system—a process not yet complete—has made the Orthodox Church very awake and open-minded on the whole broad subject of calendar reform.

At the present time, all but four or five of the Orthodox Church groups have changed from Julian to Gregorian reckoning for their church calendar. The churches which still use Julian dates are: Bulgaria, Poland, Jugo-Slavia and Jerusalem. Russia might perhaps be added to the list, but the situation in Russia is somewhat obscured by its present separation from the other Orthodox churches.

A Pro-Synod of the Orthodox Church will meet at some time in the not-distant future—in fact, considerable preparatory work on the program has already been done, and one of the important subjects on the agenda will be the problem of the church calendar. This discussion might easily be widened, if need be, to include the reaching of a decision on general calendar reform and the definite approval of Professor Eginitis' declaration to the League of Nations regarding both Easter stabilization and general calendar reform.

There is no reason to suppose that the Orthodox Church would not be willing to take the leadership in the movement for Easter stabilization, if the other great Christian communions indicate a desire for such action.

On the question of general calendar reform, also, it would seem that the Orthodox leaders will undoubtedly be in agreement with Professor

Eginitis. The defects of the present calendar have long been recognized, and there can be little question as to the merits of the 12-month equal-quarter proposal. On the other hand, there would be formidable resistance among all Orthodox peoples to the 13-month plan, particularly as this would popularly be regarded by the devout as an abandonment of the sacred number 12, which has so many important and valuable spiritual associations in religious life.

The 12-month equal-quarter plan, which the representative of the Eastern Orthodox Church has supported in many international conferences, seems an entirely logical and effective way of remedying every serious defect of the present calendar. And from the viewpoint of the earnest churchman, it has important implications which go far beyond its merits as an improved civil and business measuring rod. For the calendar has a religious meaning, too, and a revised calendar will inevitably have an effect in unifying and stabilizing the church calendars of all the great communions. The significance of this movement, in its bearing on church unity, is what has won for it the attention and support of church leaders.

MARCH OF TIME

By C. G. ABBOT

Secretary of the Smithsonian Institution in his standard text-book "The Earth and the Stars"

THE march of time is so important in human affairs that very great attention has always been given to it. By general consent, the unit of time is the day. Yet here trouble begins. If we should define the day as the time elapsing between the successive instants when the sun stands in the central north and south line of the heavens, an accurate clock would soon show that the days so defined are unequal. Astronomers use two kinds of clocks; one, agreeing with the stars, furnishes what is called sidereal time. The other gives mean solar time.

Astronomers for many years preferred to start their day at noon, so that the darkness, which is their working time, would all fall in one day. For the same reason, people in general have agreed to start theirs at midnight, for their work comes in the daylight and they prefer to have it during one calendar day.

In closing our remarks on the calendar, we may refer to some recent proposals to reconcile the week and the month with the year in a more regular fashion. The purpose of these proposals is to avoid the need of new civil calendars for successive years, and to simplify the work of computing pay-rolls and other data in which the month figures. There are two schools of these calendar reformers, one desiring the greatest attainable uniformity, the other moderate improvement with a minimum of change. Both agree however in their reconciliation of the week to the year.

Fifty-two weeks make 364 days. In common years there is one day, and in leap years there are two days in excess. The proposal is to give the extra one or two days different names from ordinary days, so that when they occur there will be a break in consecutive naming of days of the week. Thus all years may begin on Sunday.

The other reform is the modification of the months. One proposal is to have thirteen months of 28 days each, with the one or two days additional in common and leap years belonging to no month at all, and celebrated as holidays. A more moderate party, desiring less change and also desiring a year easily separable into halves, thirds, fourths and sixths, retains 12 months and suggests four groups of three months, each group containing 91 days.

CANADA AND THE CALENDAR

By ERLAND ECHLIN

A writer on social and political subjects, Mr. Echlin keeps in close touch with the hearts of the Canadian people. It was while acting as European Correspondent for "The Globe" Toronto, and "The Gazette" Montreal, two of Canada's leading newspapers, that he became interested in Calendar Reform, preparing a detailed report for the British and Canadian press on the present status of the problem in Canada and the other units of the British Empire.

UNTIL two years ago, Canada had no interest in calendar reform beyond a general knowledge through the press that a change was advisable and contemplated. More attention was focused on the supporter of the new type calendar, George Eastman; for the progressive industrialist was as well known to the north of the border as he was to the south. An odd number of months and a whole new month drew attention to the plan, which was considered then as rather speculative and visionary.

In October, 1931, the Canadian people were informed by their newspapers that at a meeting of the Commission on Communications and Transit, a division of the League of Nations in Geneva, Canada had declared for a 13-month calendar. As the proposed change was not to be effective until adopted by the whole world, only a ripple of new interest was created. The feeling generally was that Canada, progressive as always in new ways, was right up to date on calendar reform.

Our pride in this achievement was somewhat dampened by later information which showed that of the 44 nations in convention, only one other, namely, Jugo-Slavia, had taken the same stand as ourselves. The shock of this isolation immediately started inquiries, not about the calendar, but about why our country had for support only one small Central European State. Prof. Kingston of the Royal Astronomical Society said:

"When the matter came before the League of Nations, it was found that only two delegates had been specifically instructed by their governments to support the 13-month year. These countries were Canada and Jugo-Slavia. The reports indicated a strong opposition to the 13-month plan and a general sympathy for some 12-month arrangement. . . . A great deal of opposition to the 13-month arrangement crystallized, and the fact that 13 is not integrally divisible into halves and quarters (or thirds for Spanish speaking countries) militated very strongly against the adoption of such a scheme. . . . The World Calendar is very simple; it retains the most desirable number of months, namely, 12; it is perpetual, and no dates in the present calendar would be shifted more than one or two days either way. . . . Action by England or any other leading nation in regard to this plan would be a very effective forward step."

In studying the Canadian commitment to the 13-month plan, we found that as a preliminary to the Geneva meeting, there had evidently been a misunderstanding, and our government had been almost completely mis-

informed as to the extent of international agreement on the 13-month, or Cotsworth-Eastman plan. Only a few individuals knew anything about either the arrangements or the proposed new calendar. When we went to Geneva, we believed that both Great Britain and the United States, having thoroughly investigated the scheme, would back it up strongly.

The British delegate, however, not only refused to be manoeuvered into position on it, but indicated that the people of Great Britain would be opposed to any plan involving 13 months. The United States delegate positively said "the American Government does not advocate any individual scheme for calendar reform." The two strongest props of our stand were thus knocked out from under us; but too late to change, for the commitment had been made.

Since then, all reference to this meeting has been withdrawn. No official report is obtainable of the exact stand of Canada today. Only a small group of people were sufficiently interested to find out why the apparently reasonable plan of Mr. Eastman did not have the unanimous support of all nations present at the conference. During the weeks at my disposal in London following my German trip, I went into the whole matter of calendar reform at its Empire source, obtaining my information from both the head office of the 13-month society and at the office of the Rational Calendar Association, the British advocate of the 12-month equal-quarter system of dividing the year.

The objections to the 13-month calendar at Geneva, I found, were due not to any lack of appreciation of the benefits of reform, but to the superiority and balance of the plan supported by the strong British 12-month organization. The delegates were convinced that when a change came it would be a more satisfactory solution of the problem to have the same number of months as at present and to have the same four seasons which we have used since the beginning of time. The plan backed by the Rational Calendar Association of England was all that its name implied. It was *rational*, and possessed all the advantages of the ingenious 13-month scheme without any of its awkwardness. More important, it involved the minimum of change.

I discovered that there was a strong British background to the 12-month equal-quarter proposal which inclines imperial opinion to listen sympathetically to this plan. Calendar reform was first brought into the arena of practical British politics in 1750 by Lord Chesterfield when he introduced a Bill to bring the British method of reckoning time up to date. The difficulties he experienced are precisely those of today and are admirably set out in his famous "Letters to My Son." Shortly after, however, his Bill was passed and England began using the calendar as we know it.

It is on the same basis of minimum change and maximum improvement that the Rational Calendar Association is working in London now. Strong-

ly backed by leading industrialists, financiers, and economists they have in their splendid offices in Whitehall the nucleus of an Empire organization, an eminently desirable aim, as imperial solidarity on calendar reform will necessarily bring the day of commencement much nearer, for Europe, the Dominions, and the Colonies still look to England for leadership.

Before presenting my report to the Canadian press and having worked with both organizations in England, when the time came to sum up the results of my investigations, I addressed the following letter to the 13-month society:

Moses B. Cotsworth, Esq.
International Fixed Calendar League, London.
Dear Sir:

Following Canada's declaration in favor of a 13-month calendar in 1931 and finding that of the nations of the world only one other, a small central European state, took the same stand, I went into the whole matter of reform during the past few months. With the assistance of your London office and also that of the Rational Calendar Association, full information of both plans was supplied for my consideration.

From what I know of Canada's requirements as an essentially agricultural country, I must advise you that there is no comparison in the benefits of your 13-month scheme with the plan of the Rational Calendar Association for a 12-month year of equal quarters.

The people of Canada are not only uninformed about the 1931 commitment, but have had no opportunity of expressing their opinion regarding any change. I may say that they will be unalterably opposed to a year of 13 months.

The 12-month equal-quarter plan, involving as it does a minimum of change, the retention of our seasons, and its other numerous advantages, far out-weighs your fixed calendar of 13 indivisible units.

Please permit me to thank you for the courtesy shown to me by your London office.
Yours truly,

ERLAND ECHLIN.

At the next international conference on calendar reform there is no doubt that Canada's position on this subject will be considerably altered. No Canadian government will ratify such a radical national change without a complete survey of the wishes of the people. Nor could a binding stand be taken without the union of the whole Empire. The position of the United States must materially affect our attitude.

In conversation a short time ago with His Excellency the Honorable G. Howard Ferguson, High Commissioner for Canada in London and former Prime Minister of Ontario, Mr. Ferguson declared that he knew nothing whatever about Canada being bound to any calendar reform plan. His statement may be taken as a general example of the complete lack of knowledge the Canadian people have on this subject. Nevertheless those few who are interested, and who are interesting others in a matter of such national importance, are swinging strongly behind the Rational equal-quarter plan so popular in England. With this lead given to us by the mother country, Canadians are urged to study the obvious advantages of the harmonious and balanced calendar advocated by the British group.

AS VIEWED BY BUSINESS

By ELISABETH ACHELIS

President of The World Calendar Association

From an address before the American Delegates to the Vienna Congress of the International Chamber of Commerce, May, 1933.

IN the various reports that have come to me from the International Chamber of Commerce my attention has been challenged by the repeated emphasis which is placed upon four qualities—stability, balance, equality, moderation. If these fundamental principles are necessary in trade relations, in treaty making and revision, in transport, in monetary standards and in other economic, social and international questions, they are also needed in our time-system, the calendar. The revision of the calendar belongs to the progress and spirit of our time and civilization, for the world cannot much longer function effectively without revision.

It is amazing that we have tolerated and are still tolerating such a shifting and irregular calendar as ours. The years constantly change; each one is different. The days and dates never agree from year to year. January of last year differs from this year and will vary again next year. The resulting complications are confusing, annoying, and of course unnecessary. Accurate comparisons are impossible. Difficult and cumbersome tabulations and approximations must be daily resorted to in the financial and commercial world.

The present calendar is not exactly divisible into quarter and half years. The first quarter has 90 days, the second 91, the third and fourth 92 each. The first half of the year is three days shorter than the second half. These differences become factors of error in the economic field.

Days and dates constantly vary. July 1st may be a Wednesday, a Thursday, or a Saturday. This leads to constant confusion. When important conferences are planned there is a scurrying for a calendar, and paper and pencil are hastily put to use in order to decipher upon what day a particular date will fall. It is not unusual that errors occur in invitations and in the making of appointments. I have had the experience, which doubtless you have had also, when the day and date did not agree in the invitation. Wednesday, April 3, was not correct, and we wondered whether Wednesday, April 2d, or Thursday, April 3rd, was meant. It has been humorously said by psychologists that in such a dilemma a woman will interpret the invitation to mean the week-day and a man the month date.

In educational circles, for example, the annual schedule of universities, colleges and schools provides the faculty with days of trial and difficulty because of the constant changeability of the calendar.

We are gathering at Vienna intent upon improving economic conditions. Perhaps one of the important steps we can take is in the direction of improving this antiquated calendar so that it will more adequately meet the demands and requirements of the modern world.

Our chairman has graciously asked me to explain briefly The World Calendar to you. It retains the 12 months and is premised on a 364-day year. The year is divided into equal quarters. Each quarter has three months; the first has 31 days, the remaining two have each 30 days. The even quarter division always begins on Sunday and ends with Saturday and in arrangement it contains an even 91 days, an even 13 weeks, a completed three months and approximately one season. This is achieved by changing only seven dates. To February is added two days. March loses one day and April gains one. May and August each lose a day, and December 31 becomes Year-end Day.

The 365th day which completes the earth's annual cycle around the sun is called Year-end Day, placed on a double Saturday and follows December 30. In leap years the 366th day called Leap-year Day is placed on another double Saturday and follows June 30. Both these stabilizing days are considered as holidays placed on an extra Saturday and the year always begins on Sunday, January 1st.

The World Calendar attains perfect symmetry. In every quarter the various calendrial units agree. No matter what the accounting system may be in your business or profession, no matter whether it is based on the day, week, month, season or quarter, they all come together four times a year. This synchronization facilitates the assembling, studying and comparing of reports and records. The plan is balanced and perpetual.

Another plan proposed is the 13-month calendar, which is perhaps better known among you as the Eastman plan. This calendar, however, calls for excessive changes. It disrupts and disturbs everything of the past and present. In arrangement it has 13 months. The new 13th month, Sol, is placed between June and July. Every month has 28 days and even four weeks. The plan abandons the quarters and disregards the seasonal year. Under it the convenient divisibility of the year would disappear forever. Adjustment would be violent and ingrained customs, habits and traditions—the good with the bad—would be indiscriminately discarded.

The 13-month supporters also claim that the calendar is primarily an economic matter. This is not the fact. A calendar does not belong to any one special group, nation or people. It must be universal in scope and application. To limit its advantages to one field of activity is impossible. The 13-month calendar is non-divisible, unbalanced and disproportionate in arrangement. It is intolerant in its demands.

By comparison, the World Calendar plan has six obvious advantages. It recognizes the seasons, the changes from the old calendar are few, com-

parisons with former time periods are easily obtained and accurate, expenses are not increased for business and the consumer by the addition of a thirteenth month, and the transition from the old to the new calendar is a simple one.

The International Chamber of Commerce has been one of the world-pioneers in calendar reform. Its interest has been consistent and constructive. It has established a splendid record, which assures its continuing support and interest.

LESSONS FROM CALENDAR HISTORY

By CHARLES D. MORRIS

HISTORY teaches very clearly the necessity for keeping proposals for calendar reform within the most moderate limitations. Schemes which involve great change and upheaval should be avoided by those who really hope to transfer their proposals into international accomplishment. Take for example the close-up history of the Gregorian change, which gave us our present calendar and made the name of Pope Gregory XIII immortal. It can be examined in great detail in such works as Schmid's *Gregorianische Kalenderreform* and the massive studies of Kaltenbrunner, Hagen, Ferrari and others.

For more than three centuries before Pope Gregory, there had been active agitation for calendar revision. In the 13th Century the Franciscan, Roger Bacon, laid suggestions for a reform before the Vatican. In the 14th Century Pope Clement VI had the question examined by scientists. The Councils of Constance and Basle discussed the matter and ruled that the time was "not yet ripe for decision." Sixtus IV invited to Rome the famous scholar, Johann Muller, for the reform of the calendar, but Muller died before the matter got very far advanced. Leo X reopened the question, and the Council of Trent asked Rome to do something about it. Pius IV and Pius V found the demands for a change pressing on them from all sides.

The need for reform was now recognized and admitted everywhere, and Pope Gregory vigorously undertook to meet the need. He first asked a great mathematician to prepare a scientific study of the matter. This work was completed in 1575, and was carried forward by a draft of the corrected calendar in 1576 and by the establishment of a commission under Cardinal Sirleto in 1577. The commission included churchmen and scholars from many countries, and it addressed inquiries to hundreds of scientists, universities and princes.

Suggestions for reform arrived in great numbers, and showed almost as much variation as the 200 plans recently submitted to the League of Nations. There was opposition, too, to any reform. Opinions of every kind and shade were revealed, particularly in the proposals from the universities. Every kind of correction which could be imagined was offered, until the mere examination of the plans became a wearisome task. In many cases the scholars and faculties of the same university could not agree among themselves. The Sorbonne was completely opposed to any change, maintaining that the Church, by reforming the calendar, would become the slave of astronomers, and would also imply an error by the ancient church on the subject of Easter, an admission which Paris theologians felt would have dire consequences for the whole future of Christianity. The Catholic princes, on the other hand, were enthusiastically favorable to reform, without worrying about its precise nature.

Recognition of the service rendered by Pope Gregory to world progress is no longer withheld by any civilized person. His calendar is not completely perfect, nor entirely free from errors or inconveniences. But the next revision should take a leaf from history, and definitely try not to undertake any innovations or departures which are unnecessarily severe or drastic. Calendar reform cannot be taken in large doses, for it affects very deeply the inbred habits and traditions of every man, woman and child in every nation of the world.

IMPORTANT ECONOMIC VALUES

By W. J. MACINNES

Formerly Advertising Director of General Motors

WHETHER any proposed reform will prove a help or a hindrance to the national program for the stimulation and preservation of consumption is, and will be for the coming years, the most important touchstone by which its merits must be judged. That is why it is so necessary to check over our reasons for favoring a reform in our chaotic calendar system and to see the effects in this all important sphere.

The present Administration on coming into office was confronted with the steady decline in the demand for goods and services which had appeared to be slowly wasting away over a period of four years. To it was attributed the appalling economic dislocations from which we have suffered and the phenomenon, new in the world's history, of starvation and want surrounded by steadily mounting surpluses of all those commodities for which there was the greatest need.

To the restoration of normal consumption, Washington's hardest efforts are now being bent. The basic purpose of the NRA is to restore purchasing power. Wage earners are to be restored to employment and guaranteed minimum wages by the hour and wage schedule provisions of the various codes. The purchasing power of industry and of all stockholders in industry is to be protected by the elimination of price cutting and unfair trade practices as regulated by the industrial codes.

Will this increased purchasing power show up in increased consumption? It is on this that the success or failure of the Administration's program and perhaps the very survival of our present economic system will depend. Anything that will encourage and give added opportunities for the use of goods and services is therefore of the utmost importance at this time. Anything that will help to translate this newly created purchasing power into actual consumption may easily bring about the removal of the keylog in our present economic jam.

A very important part of the consumption of goods and services is associated with our various seasons and holidays. With our present calendar the dates of these holidays and the days of the week upon which they fall vary so much from year to year and are often so inconveniently placed that they fail completely to bring out the maximum of buying.

If we could arrange holidays as far as possible on Mondays and place them so that the date and the day of the week on which they fall could be anticipated a long time in advance as a matter of ingrained habit and without turning to a calendar, we would do much to stimulate consump-

tion. Planning for holidays would become customary many weeks beforehand and would not, as now, be a matter of last moment decisions.

The World Calendar calls for a slight but very important rearrangement in the number of days in a few of our present twelve months. Through this rearrangement four equal quarters are obtained, each having months of thirty-one, thirty and thirty days. Each quarter would then be exactly equal and comparable and would have exactly thirteen weeks. The number of days in the year would therefore add up to 364. The extra day required to make up 365 would follow the last day of December, would be known as "Year Day" and would be an extra Saturday following Saturday, December 30. A similar Saturday, to be inserted six months later, would take care of the additional day required in Leap Years.

By this means the shifting of days and dates from year to year would be avoided. The same day of the week would fall on the same date year after year in perpetuity.

The World Calendar year will always start on a Sunday. If this be done, it is found that the bulk of our important national holidays will fall on a Monday or a Sunday and thus afford convenient long week-ends.

The use of the automobile, so far as the average family is concerned, is very largely dependent on the week-end holiday. Long week-ends are seized on for the planning of longer trips. Figures on the sale of gas, tires, automobile accessories and automobiles as well as the profits of roadside restaurants and out-of-town hotels all reach a peak during the longer and more conveniently placed holidays.

Under our present calendar system the only holiday we can rely on is Labor Day. Labor Day is always a Monday and everybody knows it is. For that reason Labor Day trips are planned well ahead of time and its arrival always is a peak in the travel and transportation business.

Let us stabilize the other holidays too, and in the same way, and much will be done to stimulate an industry which is conceded to have been almost wholly responsible for getting us out of the depression of 1922. Remember it is not enough to provide purchasing power, to provide consumption goods at attractive prices, and yet withhold the opportunities for using and enjoying them. The automobile will prove of little value to the family who can only use it to drive into and around in a traffic jam on Sundays—and to that I believe is largely due the comparatively poor recent showing of automobile registrations per capita around New York.

The fixation of Easter, which is an important feature of The World Calendar, will also prove of the greatest benefit to industry. It is true that the automobile industry will not be the chief beneficiary in this case, for the clothing and retail store businesses will be more interested in this feature, but the automobile industry has found that anything that brings new profits to any branch of industry will benefit industry as a whole.

Easter has long been the signal for changing fashions, new clothes, hats, shoes and the freshening up generally of many other things which appear dated when the new purchases have been brought home. For that reason, department store advertising always comes to a peak just before Easter in order to stimulate and take advantage of such buying.

In some years, however, the response is disappointing, and not only because of depressed trade conditions. An important consideration also is found in the date on which Easter falls according to our present calendar system. This will hardly be surprising to anyone who considers that the impulse to buy spring clothes, to discard winter clothing and winter hats, is considerably weakened in those years when Easter falls unduly early and skies are overcast and the weather bleak and cold.

At present we keep Easter on the first Sunday after the first full moon in the spring. Easter may therefore occur anywhere from March 22 to April 25. For the sake of clothing and department store advertisers, who many times recently have piped and found no one inclined to dance, let us as soon as possible fix Easter on some conveniently predictable date.

So far I have considered only the cases of the retailer and the advertising and sales departments. A change in the calendar system is also going to have far-reaching effects in the manufacturing division of any business.

When we consider manufacture as now practised in vast plants such as automobile factories with their mammoth and complex assembly lines a fact occurs to us which makes Calendar Reform almost a necessity.

It seems as if industry, as regulated by the codes, is going to become more and more committed to the five-day week. What is the five-day week with a holiday inconveniently placed in the middle of it going to do to a large manufacturing plant? The cost of starting and stopping such a plant will prove appalling. A sugar refinery for example cannot afford to operate unless it does so four shifts a day five days a week. Under modern economy, there is no alternative between operation at such a rate and complete shut-down. In all plants where modern manufacturing methods are employed, true economy in production is only attained when the plant is running at or near capacity.

From the manufacturing point of view therefore the prospect of wandering holidays frequently occurring in the middle of a short working week, as is inevitable under our present calendar system, is rather a disquieting thought. Faced with it, the manufacturer will have to choose between a week of inefficient production and speeding up production before and after the holiday week, with a complete shut-down during it. He will probably choose the latter in spite of the serious effects on the earnings of his employees.

Confusion will become more confounded by some plants choosing one course of action; some another. The result will be that shut-downs in

various inter-dependent plants will overlap, supplies will be interrupted and serious inconveniences and losses will be caused.

For these reasons the general adoption of the five-day week will make some kind of calendar reform well-nigh essential. In such a time as the present, with the world accustomed to many far more radical changes, a completely revised system should be adopted. The opportunity is here and we should not be satisfied with a mere tinkering with our calendar's major inconveniences but should adopt The World Calendar as a whole.

There are of course many revised calendars besides The World Calendar that have been proposed; over two hundred I am told. The very number of these proposals is an indication of the urgency of some revision. The World Calendar however is to my mind vastly to be preferred; its only serious contender being based on a complicated 13-month principle.

To mention but a few of the more important inconveniences of the 13-month plan, there is the added cost of rendering and paying bills; the lack of convenient and easily anticipated quarter and half yearly periods (dividends would be payable January 1, April 8, Sol 15 and September 22 or on some such other fantastic and unpredictable basis); the complication of the calculation of monthly interest rates where the number thirteen is involved; and the necessity for the complete revision and recalculation of navigational methods and tables.

Added to this is the less convenient placing of the holidays under the 13-month system, to correct which would involve changing the date of Christmas, a thing both difficult and undesirable.

An extremely important feature of The World Calendar is the fact that under it Christmas, December 25, would fall on a Monday. "Year Day," the extra Saturday inserted to make up 365, which would follow the last day of December, a Saturday, would be a holiday. January 1 would be Sunday and of course a holiday too. Thus in the case of The World Calendar, the most important holiday period in the year would be conveniently provided for without any make-shift changes.

The World Calendar calls for no radical changes in our daily lives and habits, no addition of a weird and unfamiliar month, no complication of banking and accounting practice, no added cost or inconvenience for industry or the home. Its adoption would call for only a few readjustments and the transition to it from our present system could be quickly, easily, and almost unnoticeably made.

Yet the benefits that would accrue from its adoption would be very important. The added stimulus to consumption that it would provide might easily prove a vital factor in translating the new earnings under the NRA codes into effective buying power and in getting and keeping the industrial life of the United States and perhaps the world off the dead center on which it has hung for the last four years.

STORY OF THE CALENDAR

By DAVID THIBAULT

This is the fourth of a series of articles in which the author traces the evolution of the calendar from its earliest beginnings to the present time. His studies aim particularly to draw from this evolution the conclusions which are most important in the current discussions. Continuation of his studies will appear in future issues.

VIII

CAESAR attacked the problem of calendar reform with the same courage and intelligence which stamped his political and military tactics. In 46 B.C. he inserted 67 days between November and December. That made a year of 445 days, but it brought the civil and the natural years together. He ordered that the first, third, fifth, seventh, ninth and eleventh months should have each 31 days, and the other months 30, except February, the last month of the year, which in common years should have only 29. Every fourth year February was to have 30 days.

But his successor, Augustus, desired that August, the month named for himself, should have as many days as July, the month named for the greatest Caesar. A day was taken from February and added to August. But that left three months in succession with 31 days each. To remedy the new defect, September and November were reduced to thirty days, and October and December were each given thirty-one.

When Julius Caesar laid violent but order-making hands upon the Roman time reckoning system and set up the "Julian calendar," he tossed aside the confusing moon reckonings and based his calendar upon the sun. There were 365 days in the year he established, and 12 months. The new calendar restored the date of the equinox to the afternoon of March 23.

Let us pay a moment's respect to Caesar and the men who helped him make the Julian calendar. It is a wonderful instrument. It fell so little short of being perfect that many centuries were required to bring its faults glaringly to light. Not many things last so long. Sound principles must be built into any system that can endure in such a way.

Before we go on to the more important changes which finally made the Julian calendar obsolete, there is the interesting history of the week-days to be examined hastily. The Romans had no seven-day week. The seven-day week was observed by the Jews, then Roman subjects. But even they, at that time, must have made their public and secular time-reckoning conform with the Roman state calendar. The Romans had specific day-names for the days of each month—the Calendes, Nones, Ides. But with the westward spread of Christianity through the Roman Empire, the seven-day

week, through a period of nearly 300 years, gradually superseded the older designations. Another difference: The Roman calendar reckoned time from the founding of the city. The Roman calendar as adopted by the Christians began to reckon time from the supposed date of the birth of Christ, or from the supposed date of the birth of Abraham. Charlemagne was the first secular ruler to adopt officially the present reckoning.

The week-day names of the calendar are purely pagan, of course, and they reflect the far-flung dominance of Imperial Rome. There must have been some great tangles in that time when the Roman fixed, named and numbered month-days were struggling for popular supremacy with the vigorously growing Jewish-Christian seven-day week, with its days named after pagan gods! The Christian week was finally victorious not only actually but officially, and was made legal by Constantine about 321.

But after all, the matter of weeks and days and day-names is one of detail. We go into a discussion of these things here to show the present-day calendar in the making—or at least in the transformation from a pagan instrument of time-telling into the form it has today. There is something much more vital to be considered at this point. That is the fundamental defect in the reckonings of Caesar.

In establishing the length of the day, the great Roman made the same mistake which had wrecked the Egyptian civil calendar long before—that of failing to make the natural division of time and the arbitrary one agree perfectly. Caesar came admirably close to doing it. When we think of the crude instruments at his disposal, we have only reverence for his effort.

His calendar, adopted after the Christian era throughout the Empire and in Constantinople, stood unchanged until the time of Gregory. When, in 1582, Pope Gregory XIII cast his eye over the Church calendar, he saw that the leap-year error of Julius Caesar had become embarrassing in the course of time, and that the ancient church calendar was strongly founded upon two suppositions, both of which were erroneous. One of these was that the year contains $365\frac{1}{4}$ days, and the other was that 235 lunations are exactly equal to 19 solar years.

In 1079—503 years before Pope Gregory's renowned contribution to calendar science—the Sultan of Khorassan ordered eight eminent astronomers to remedy some calendar defects of the day. One of these astronomers was the poet, Omar Khayyam. Omar leaves us a verse in his Rubaiyat which hints at his labors at calendar reform. Better still, he leaves us a leap-year rule which is second only to Gregory's for accuracy. Omar provided for eight leap-years in thirty-three years. This would mean that by his rule there would be 96.97 days intercalated in 400 years; Gregory's rule intercalates at the rate of 97 days in 400 years. But the trouble with Omar's leap-year rule was that it could be comprehended only by the use of a very clumsy and tedious table. Now for Pope Gregory XIII,

and his epoch-making changes. To begin with, the work was not Pope Gregory's, though it certainly could not have been undertaken without his aid. Aloysius Lilius, a learned astronomer of Naples, actually did the work, and intelligent, good work it was. Unfortunately Lilius died before his calendar was put into effect.

Caesar's great error lay in adding one whole day too many in every 128 years. Every leap year too many which is added, pushes the date of the equinox one day toward January. These accumulated days had become numerous in Gregory's time. Counting from the beginning of the Christian era the equinox had been pushed 12 days toward January in Gregory's time. To make partial adjustment, Gregory dropped ten days from the calendar when his system went into effect in October, 1582. Experts pronounce Gregory's calendar far superior to Caesar's; but they point out that his, too, intercalates too many leap-days, especially in the distant future; the date of the equinox is gradually falling earlier.

The whole world did not at once accept Pope Gregory's calendar. England, at that time and for centuries afterward strongly anti-Catholic, did not accept it until 1752. When England did accept Gregory's revisions, it was necessary, to make Julian reckoning catch up with Gregorian time, to add eleven days to the calendar then current. And at the same time New Year's day was changed from the 25th of March to the 1st of January.

And that is why our own George Washington's birthday happens to be celebrated eleven days later than that momentous birth actually occurred. "Hence," says Rupert Hughes, "we find the date of Washington's birth put with an ambiguous double numeral, as February 11, 1731/2." Washington himself celebrated February 11 as the day of his birth.

IX

One of the quaint and thought-provoking legends dealing with the Wandering Jew, tells how the lonely old man returns again and again to the same spot once each century. "Where is the forest that stood on that hill?" he asks of a native of the contemporary generation. "Forest! Hear the old dotard talk!" the man responds. "Why that hill has been a meadow—as it is now—forever!"

The wanderer goes away. After a hundred years he returns. "Where," he asks of a descendant of the native previously questioned, "is the sweep of green meadow that once crowned the hill?" "Meadow!" comes the incredulous reply, "why, that hill has been surmounted by that castle—just as you see it now—since time began! Your mind must be wandering, old man." The lapse of another century brings another change, another generation of men just as certain that the commonplace sights and surroundings with which they grew up, have stood since the beginning.

We have been a bit like the old Wandering Jew in our brief travel

through the history of the calendar. We have seen many long-standing structures change. And many, many persons are like the natives in the legend. Ask a friend whence our calendar of today came; he may tell you anything, unless he is unusually well informed on the subject. Ask him how old an institution the calendar is, and he will probably tell you that Julius Caesar invented it while dictating four letters at once, in three different languages—and add, as a protective clause, that he thinks Pope Gregory had something to do with it.

The calendar today is much as that hill which the Wandering Jew saw, first clothed with forests; then covered with an upland meadow, and finally crowned with a splendid castle. Doubtless a tree or two of the old forest stood when the hill became a meadow; and perhaps these old trees, and a strip of meadow grass still remained somewhere in the broad grounds of the castle which came later. That's precisely the picture of the modern calendar. Pope Gregory didn't make it; Omar Khayyam didn't sing it into being, and the mighty Caesar himself merely did a wonderfully efficient job of house-cleaning as regards the calendar. More than 4,000 years before Caesar the Egyptians set the year at 365 days, reckoning by the rising of the star Sirius. But they made a rather rough job of it. Their year had, actually, 360 days. The five extra days were added on as "days additional to the year." Even then their crude calendar halted sadly, because once every four years Sirius rises one day later—after 366 days.

This accumulation of knowledge and faulty observation was passed along to the Greeks, who in Hellenic times made wide use of the Egyptian calendar. And it was this mixed and mangled system which the Romans largely adopted. Add to the general confusion the fact that the Roman Pontiffs juggled dates shamelessly as we have seen, and you have the calendar as it was when Caesar came. And the modern calendar?

It has some of the virtues and some of the vices of nearly every one of the many forms which we have studied. It is not a system of time-reckoning which has stood since time began. It has been changed, it has been twisted, it has been mixed with similar systems. It has come through the melting-pot of every culture that has swayed the earth since the first life wriggled in the primeval seas—long before there was life on the land—when man was a dim dream in the uttermost plans of Time.

We would like here to emphasize the fact that no system of time reckoning has "always been." All of them are like the forest, the meadow, the castle on the Wandering Jew's hill. So far as the short-sighted present is concerned, they have always existed; to the thoughtless, to those who have made no study of the subject, our own Gregorian calendar probably sums up all the time-reckoning there is, or ever has been. To the devout Hindu, his current calendar is just as final—backward and forward. To the Chinese, the Igorote—to all races and peoples, their own particular time-

reckoning system seems sacred, inviolable. But we know that all peoples have modified their calendars at some time, have borrowed them sometimes bodily, from older or more cultured peoples. And from time to time they have unhesitatingly struck out days, weeks, or longer periods, in an effort to adjust the calendars to time as it is measured by the heavenly bodies.

While the peoples of the earth do, and for long millenniums have stood loyally by their calendars, they stand more loyally by these celestial time-measurers, the stars. The truth which each successive culture brings into the world lives on—the less substantial things and thoughts perish. Remember Euclid, and his text book which survived 2,000 years; remember the reckonings of Babylonian astronomers which stand, with slight revisions, today. And it is because successive generations and peoples can, and do to some measure recognize what we call “absolute demonstrable truth,” that the world becomes a better place in which to live as it rolls on. One group of the fundamental “demonstrable truths” which all peoples have recognized, are those basic astronomical calculations upon which the calendars of all lands rest.

Of course there is wide difference in the details of, say, the Chinese and the Gregorian calendar. The Chinese reckon in cycles of sixty days, using that unit much as we use the week. The Mohammedan lunar calendar also offers marked contrast to our own. But the fundamental dependence of all is upon a certain small group of astronomical observations.

This fact proves the fundamental nature of time reckoning. It also gives us the reasonable hope that sometime in the future—many years off no doubt—the fundamental truth in all calendars will mean more than the national peculiarities which distinguish them. That will lead to the adoption of a universal calendar. Impossible? Not at all. Standard Time had just such a fight before it was adopted.

No present calendar is perfect. In fact, even the best of them now in use, are so far from perfect in some respects, that the peoples of the earth find justification in clinging to their own systems of time reckoning. “Why discard the traditional calendar of our fathers,” the Chinese might say to us, “when the calendar which you offer permits your important feast day, Easter, to wander back and forth within a thirty-five day period?”

What answer can we give? We shall turn to science for the answer. We shall lay bare the shortcomings of our good friend, the Gregorian calendar, as Gregory's scientist laid bare the shortcomings of Caesar's calendar—as Caesar laid bare those of the Roman-Greek-Egyptian-Babylonian-Assyrian-Cave-Man calendars which came before his own time.

It's largely a matter of cleaning house now and then. Of cleaning house intelligently, of course, with the aid of all the modern gadgets that progress brings to house-cleaning—and to calendar making.

EASTER IN NEW CALENDAR

By DR. HANS SCHÖNFELD

Director of Research, Universal Christian Council, Geneva

On what date would a stabilized Easter fall in a new calendar? The editor of the *Journal of Calendar Reform*, in an explanatory footnote printed at the end of Dr. Schönfeld's article on "Churches and Easter" in the September issue, stated that "if either of the main proposals for calendar reform are introduced, the acceptance of the League of Nations proposals would mean that Easter would fall on April 15." Dr. Schönfeld insists that this statement is incorrect, and gives his views in the following article, showing that under The World Calendar, the Easter date would be April 8. The reasons given by Dr. Schönfeld, in this interpretation of the League of Nations' legislation, are completely convincing and authoritative. The *Journal of Calendar Reform* is happy to amend its previous viewpoint and to accept unreservedly this correction.

SEVERAL inquiries have lately been addressed to the Research Department of the Universal Christian Council as to the precise date on which Easter would fall if The World Calendar should be adopted by international agreement. It is the opinion of this department that the permanent date would be April 8. All preliminary action taken by the League of Nations, by the British government, and by church authorities, points clearly to this as the date which would be selected and approved.

Oddly enough, there has been a somewhat widespread misunderstanding in regard to this date, and several commentators have incorrectly stated that the Easter date in The World Calendar would be April 15. The editor of the *Journal of Calendar Reform* made this error in the September issue, and the President of The World Calendar Association has until very recently been of the same opinion. Several of the official National Committees on calendar reform made similar statements in 1931.

With such eminent authorities in error—and they have been prompt to admit their error when it was pointed out a few weeks ago by this department, it is not surprising if many churchmen have been misled.

The mistake of the eminent authorities is, however, understandable. It arose from their failure to apply correctly the very precise wording of the British Easter Act and of the "Easter Act" passed by the League of Nations in 1931. In applying the wording of this legislation, it must be remembered that both acts, in approving the principle of a fixed Easter "on the Sunday following the second Saturday in April," direct that this method of dating is to be applied *under the present (Gregorian) calendar*. For example, in any year beginning on Sunday (such as 1933 or 1939), the recommendation of the League would bring the date of Easter Sunday on April 9 in the Gregorian calendar. The corresponding date, under the pro-

posed World Calendar, would be Sunday, April 8. *It would not be Sunday, April 15.*

Now the adoption of a perpetual calendar, such as The World Calendar, necessarily requires that it be instituted and installed in a year beginning on Sunday—in short, a year corresponding exactly to 1933 or 1939. The Easter date in such a perpetual calendar, therefore, would necessarily be the one which corresponded in the new calendar to the Easter day selected by British legislation and by the League of Nations in the Gregorian calendar. It would be Sunday, April 8.

It will be seen, therefore, that the mistaken impression of certain commentators—to the effect that the Easter date under The World Calendar would be April 15—is due to an error in applying the wording of the League's Easter Act *directly* to The World Calendar, instead of applying it first to the Gregorian calendar and then working out the corresponding date under the proposed new system.

The precedents for my decision regarding the Easter date are numerous and convincing, particularly in the legislation which was passed in many countries at the time of the Gregorian change, as well as in the legislation which is anticipated by students of the legal side of calendar reform in connection with any further change which may be legislated by international agreement in the future.

Inasmuch as the precise date of a fixed Easter is of great importance to many of the churches in their current consideration of calendar reform, the opinion which is expressed herewith has been submitted to the Commission of Communications and Transit of the League of Nations, and has been approved in principle by the members of the secretariat in charge of matters of calendar reform.

It may be confidently assumed, therefore, that the predominant weight of authority is in agreement, and that the Easter date under The World Calendar would fall on April 8.

The advantages of this date are obvious. It corresponds very closely to the anniversary of the historic event which Easter commemorates, at least as far as there is any agreement among scholars on the subject. It meets the seasonal requirements of a church holiday which is widely observed in many fields of human activity. It avoids the frequent criticism of a mid-April Easter on grounds of conflict between religious observance and business preoccupation. It avoids the objections to a Good Friday falling always on April 13, which is objectionable to many because of the clash with superstition and ignorance.

A stabilized Easter on April 8 would seem to meet every requirement, and fortunately this date, in The World Calendar, is the one which is directed and ordered by all the preliminary legislation (under the Gregorian Calendar) in the British House of Lords and the League of Nations.

DATES AND DAYS

By C. DAVID STELLING

Secretary of the Rational Calendar Association, London

IT IS difficult to conceive of life without time-divisions. We map out our existence with watches, clocks and calendars and are entirely dependent upon these infinitesimal subdivisions of eternity for the arrangement of affairs. Today we measure speed in tenths of a second—yet it is not so long in the history of mankind since the division of time into years and of years into seasons and months was a mystery that was guarded as the secret of priests and magic-workers.

It has always been difficult to harness time to man's needs. The earth's movements in relation to the sun and the moon's movements in relation to the earth, were obviously the governing factors. These were matters for the special study of the astrologers and the priestcraft in the early days and later for astronomers who had at their disposal knowledge and apparatus denied to the ordinary man. But certain obvious rough time divisions presented themselves. Darkness and light alternated regularly enough for practical purposes, though not at fixed intervals. The distance of time between the rising of the sun and its setting was never twice the same. Similarly, with heat and cold and with rain and drought, the time for sowing seed and the time for harvesting the grain—these things recurred at more or less regular intervals.

The wise men of the community would see the signs displayed by Nature in the great annual wheeling of the seasons, and would proclaim that when the next moon was at the full, the seed should be sown or the feast of thanksgiving or propitiation begin. When the shadow of a certain tower fell across the courtyard upon a sacred stone, the priests would issue from the temple and call the people to the sacrifice. The people would watch in awe the shadow of the tower creeping like the hand of the sun-god along the wall, but its motion was a holy mystery to them. Now we all watch the hand moving hour by hour round the dials of our watches, and the calendar has become a commonplace of our daily lives.

But the emancipation of time from mystery is not yet complete. It began, less than 3000 years ago, with the first time-systems of the Romans.

The year was usually reckoned among primitive peoples to begin with the spring equinox, about the end of March. Romulus, the priest-king founder of Rome, divided the year into 10 months, beginning with March and ending with December, but one of his successors, Numa Pompilius, 50 years later, added our first two months, January and February, and decreed that January, which was dedicated to the god Janus, who had two

faces, one looking forward and one backward, should begin the year. This decree had little effect on popular ideas, and spring continued to be regarded as the beginning of the year until late in the Christian Era, when the importance of Christmas led to the revival of Numa's idea. But in early times a year was a vague period in the popular mind, less important as a measure of time than consulates or priesthoods or feast days.

The priests of early Rome, in the six centuries before Christ, like the priests of Egypt and Persia and Greece, had fixed the months, or moons, to the sun-reckoned year by arbitrary and complicated methods of intercalation. By the time the Romans had begun to spread their practical empire of law and order throughout the world, the priestly makeshifts had so deranged the course of nature that Julius Caesar is said to have found himself going into winter quarters as spring was coming on. The Egyptians were then the most expert astronomers, and Caesar, as Pontifex Maximus, the high priest of Roman religion, summoned one Sosigenes of Alexandria to evolve a system of months and years which all the people could know and use.

The Julian Calendar, as the system is called to which in substance we still adhere, fixed the months by the names we know as alternately of 31 and 30 days, except that February had 29 in non-leap years. The seventh month (or Quintilis, the fifth reckoning from March) was renamed after Julius, and the next after his successor Augustus. Unfortunately, Augustus' month had only 30 days to July's 31, and this piqued the imperial vanity. So Augustus stole yet another day from February and added it to August. Then to avoid three consecutive months of 31 days, he took a day each from the seventh and ninth months, September and November, and added them to October and December. Thus began our present irregular sequence of 31, 28, 31, 30,

The Western nations continued to use this calendar after the spread of Christianity, but the new importance of Christmas and Easter led to the practice in many countries of regarding one or other of them as the milestone of the years. During the Dark Ages, from the 4th to the 9th centuries, many varieties of annual chronology were in use, though the Julian months persisted.

In Saxon times in England, the year probably was held to begin in the spring, but William the Conqueror was crowned after the Battle of Hastings on January 1st and ordained that the year should thereafter begin on that date. Popular practice adopted this rule, although the legal and civil calendars continued officially to follow the old idea of the spring equinox as the start of the year and to use March 25 as the first day.

This divergence, not only between popular and official practices, but also between one country's use and another's causes confusion in historical records, and many famous dates of events occurring in the months of

January, February and early March are really erroneous. The Revolution ascribed to 1688, for instance, was carried out in February, so that by our modern reckoning it should be the Revolution of 1689.

Throughout the Middle Ages the Calendar was primarily a religious concern, and in the great days of Catholicism, when all Europe was united under the Papacy, efforts were constantly made to introduce uniformity throughout Christendom, especially since the Julian Calendar was found to be inaccurate as a measure of time.

Caesar had made every fourth year a leap year, which is a little too frequent to fit in with the sun's cycles, since the length of the year is not 365½ days, as they thought, but only 365 days, 5 hours, 48 minutes and about 49 seconds. As the centuries passed, the date of the spring equinox thus fell earlier and earlier, in the year. At last, at the instigation of a series of Church Councils, Pope Gregory XIII took expert advice and in 1582 promulgated reforms, which took ten days out of the year, made three out of every four centurial years common instead of leap years, established the very elaborate method of finding the date of Easter which is to be found at the beginning of the Prayer Book, and made January the official first month instead of March.

The Catholic nations adopted the reforms at once, and most of Protestant Europe followed suit soon afterwards. But England, Sweden and Russia lagged behind, until by the middle of the 18th Century they were 150 years late in falling into line.

By that time their calendar, known as the Old Style or Julian Calendar, had become 11 days wrong, and with the beginning of international trade and overseas expansion, the inconveniences of having a different time-system from the rest of the world began to be appreciated.

One of the foremost wits and fine gentlemen of the day, Lord Chesterfield, after his retirement from active politics about 1745, went as Ambassador to The Hague for a few years, and there discovered these inconveniences. When he came home, he decided to introduce a Bill into Parliament to correct the error. But Calendar Reform then, as now, was no light task, as he himself records. The Duke of Newcastle, who was Secretary of State, "besought me to abandon it, saying 'he was alarmed at so bold an undertaking,' and enjoined me not to stir matters that had long been quiet." But the Prime Minister (Henry Pelham) and the Lord Chancellor, were in favour of it, and Lord Chesterfield proceeded to prepare the public mind by contributing essays to various periodicals.

The story of the famous speech in which he introduced the Bill in the House of Lords is told in one of those letters to his son, which are his chief claim to fame. After describing the reasons which led him to undertake the matter, he says:—

"I consulted the best lawyers and the most skillful astronomers, and

we cooked up a Bill for that purpose. But then my difficulty began; I was to bring in this Bill, which was necessarily composed of law jargon and astronomical calculations, to both of which I am an utter stranger. However, it was absolutely necessary to make the House of Lords think that I knew something of the matter, and also to make them believe that they knew something of it themselves, which they do not. For my own part, I could just as soon have talked Celtic or Sclavonian to them as astronomy, and they would have understood me full as well; so I resolved to do better than speak to the purpose, and to please instead of informing them.

"I gave them, therefore, only an historical account of calendars, from the Egyptian down to the Gregorian, amusing them now and then with little episodes; but I was particularly attentive to the choice of my periods, to my elocution, to my action. This succeeded, and ever will succeed; they thought I informed because I pleased them; and many of them said that I had made the whole very clear to them, when, God knows, I had not even attempted it."

After sundry amendments by the House of Commons, the Bill was read a third time on May 17th, 1751. It enacted (1) that the legal year 1752 should begin on January 1; and (2) that September 14 should follow September 2 (omitting the eleven intermediate dates). In a letter to a French lady, the Marquise de Monconseil, in Paris, on April 11, Lord Chesterfield gave a characteristic account of his reasons for introducing the Bill, saying that he had often noticed that her letters to him arrived before the date of their despatch, that he was sure she must be right and had made enquiries and found she was, and had therefore, decided to introduce her style ("qui est bien le meilleur que je connaisse") in England.

The polite society of England readily accepted the reform, but the more religiously-minded citizens were shocked at the apparent profanity of tampering with the dates of saints' days, and the common people were indignant that their lives should, as they thought, be shortened by Act of Parliament. In the autumn, when the time came to drop the 11 days, angry mobs stamped up and down Whitehall shouting "Give us back our eleven days!"—a slogan which evidently became popular, for it is to be found illustrated in an engraving by Hogarth which satirises election methods.

Other nations were even more tardy, and it was not until 1923 that Greece adopted the reformed calendar, having been the last Christian country to stand out. There is today little of the civilized world, apart from the Mohammedan, Hindu and Parsee people in the Near East and India, that does not now officially use the same calendar.

But the Gregorian Calendar is archaic and out-of-date. Though well enough adapted to the casual activities of the easy-going Eighteenth

Century, it is out of keeping with modern organized life. It would probably have been changed long since, but for the necessity of securing international agreement by processes necessarily long and cumbersome. The whole world, however, is now beginning to recognize the need for a more logical standard of time-measurement. The problem has been to bring about effective reform without any violent changes. The League of Nations has taken the matter in hand, and there has been evolved a thoroughly workmanlike scheme which removes all removable defects with the least possible disturbance.

Our year as it stands is patently not an efficient basis for calculations of any kind.

The first quarter normally contains 90 days, the second 91, the third and fourth 92. One half-year is three days longer than the other. The year is not exactly divisible into weeks. Dates, therefore, never fall on the same day from year to year. The same month in different years may contain 4 Sundays or 5. Easter falls sometimes in March and sometimes in April, Whitsuntide similarly oscillates between May and June. In consecutive months the number of working days always varies. Sometimes there are 52 and sometimes 53 pay-days in the year, and payments of interest, dividends and rents, and currency of Bills of Exchange and the term of legal contracts are greatly complicated by the want of a fixed year. The banks have to use very elaborate special tables in order to make accurate daily calculations in current accounts, and the work of accountants, auditors and Treasury officials is unnecessarily magnified by the universal irregularity.

We have become so accustomed to the inconveniences of the Gregorian Year, that we take it as natural to have to consult an almanac every time we want to know on what day of the week a particular date, such as Armistice Day, will fall, or what will be the date of, say, the Bank Holiday that falls on the first Monday in August.

With a Perpetual Calendar we could have a permanent almanac printed on our cigarette cases or watches—and should rarely have need to consult it. Children could learn the whole almanac at school far more readily than the multiplication table.

The most glaring deficiency of our irregular calendar appears in the distorting influence it has on comparative statistics of trade. Modern industry is so highly organized that exact statistics of costs and production are indispensable. Minutiae today determine profits, and exact statistical information, quickly established, is often vital to the successful promotion of any business. Even the Board of Trade reports are constantly vitiated by the incomparability of the periods used for comparison. Not only are successive months seldom comparable, but the same months in different years often contain a varying number of working days.

For example, the number of working days (taking Saturday as a half day) in four months of this year and last are as follows:

	1932	1933
March	23	25
April	23½	20½
October	23½	24
November	24	25

As was pointed out in the British newspapers at the beginning of the year, the general effect of such discrepancies is that "all statistical comparisons between corresponding months and quarters of 1932 and 1933, will be valueless, and even elaborate adjustments can only make them approximately accurate."

Calendar reform is not a post-war "stunt." Proposals for a revision of the Gregorian system have been made for at least 100 years.

In 1834 an Italian (l'Abbé Mastrofini) suggested that the last day of the year should be made "blank"; in 1849 Auguste Comte, the French philosopher, conceived a 13-month plan (lately resuscitated) with the same basic idea. An Evangelical Conference in 1900 and a General Synod in 1909, considered Calendar changes, and as early as 1908 a Bill came before the House of Commons. Since 1910 and especially since the war, the Chambers of Commerce of Europe and the Empire and the International Astronomical Union, the Hanseatic League and many other international bodies have pressed continually for discussion of the question, and the London Chamber of Commerce was the prime mover, under the leadership of Lord Desborough, of the Easter Act of 1928, which was designed by the Chamber as the first installment of Calendar Reform. This Act, though not put into operation pending agreement by all the Churches concerned, is the only practical step yet taken in any country.

The League of Nations began its enquiries into Calendar Reform in 1923. It has had under consideration in the last ten years about 200 different proposals for reform. Many of them were variations of the same principle: they included schemes for a 5-day week (with a year of 73 weeks); for one 5-week month in every three; for a revival of the archaic principle of a year of 360 days with 5 extra intercalated days; and for a system of complete years of 52 weeks with occasional years of 53 weeks. Some of these systems are impracticable for astronomical reasons, but the objection to most of them is that they involve too wide a divergence from existing practice to be acceptable.

The Twelve-Month Year of Equal Quarters is the method of reform that has been advocated for many years in England. It is in substance the scheme embodied in the Calendar Reform Bill introduced in the House of Commons in 1924. It is strongly supported by organizations in France, the United States, Germany, Switzerland, Belgium and Greece.

INTERCALARY HISTORY

By DR. J. K. FOTHERINGHAM

Department of Astronomy, Oxford University

Informal discussions of calendar reform during the triennial convention of the International Astronomical Union emphasized the fact that there is nothing revolutionary or unprecedented in the use of "intercalary days" (Year Day and Leap Day), as proposed by advocates of The World Calendar. Similar intercalations have been present in practically every calendar which man has used since history's dawn. According to Dr. Fotheringham's view, the present calendar employs intercalation in the quadrennial insertion of the bissextile February 29. Historical examples of intercalation in Jewish and other calendars are given by Dr. Fotheringham in the following article, which is composed of extracts from a scholarly treatment of the whole subject of the calendar, prepared by him for the Almanac Office of the British Government and published in full in the 1933 issue of the British Nautical Almanac.

A CALENDAR is a method of combining days into periods adapted to the purposes of civil life and religious observances, or to the requirements of scientific precision, such as weeks, months and years. Three of the periods used in calendars, namely, days, months and years, are based on those astronomical periods which have the greatest importance for the conditions of human life. Other measures of time, such as the week and the subdivisions of the day, are artificial. The complexity of calendars is due mainly to the incommensurability of the astronomical periods on which they are based.

Egypt. The Egyptian year from an extremely remote date consisted of 12 months of 30 days each, followed by five days called in Greek "epagomenae," or "added," making 365 days altogether.

The 30-day period is obviously based on the lunation, so that the calendar must at some date have been governed by the moon, while its primitive connection with the solar year is proved by its division into three seasons (Flood-time, Seed-time, Harvest-time) each containing four months, which in hieroglyphics are always designated by their places in the season to which they belong. But before the earliest times known to us, all attempts to equate the calendar month to the phases of the moon or the calendar seasons had been abandoned, and the beginning of the Egyptian year and of the calendar seasons gradually retrograded, returning to its place in 1506 years.

The Egyptian calendar was, up to the time of Julius Caesar's reform of the Roman calendar in 46 B.C., the only civil calendar in which the length of each month and year was fixed by rule, instead of being determined by the discretion of officials or by direct observation. If the num-

ber of years between two astronomical observations, dated by the Egyptian calendar, was known, the exact number of days could be determined by a simple calculation. No such comparison could be made between dates referred to any other civil calendar unless the computer had access to a record showing the number of days which had actually been assigned to each month and the number of months assigned to each year.

An attempt in 238 B.C. to introduce a sixth epagomenal day once in four years (Leap Day) failed, but a renewed attempt about 25 B.C. was more successful. An additional day was inserted at the close of the Egyptian year 23 B.C. on August 29 of what we call the Julian calendar, and at the close of every fourth year afterwards. The effect of this was to keep each Egyptian month fixed to the place in the natural year which it happened to occupy in 23 B.C.

But the old calendar was not easily suppressed, and we find the two used side by side until 238 A.D. at least. The old calendar was more popular, and was generally preferred by the astronomers and astrologers.

Armenia and Abyssinia. The old Egyptian calendar survives in slightly modified form in the Armenian calendar, the three first months of the old Egyptian year corresponding exactly with the last three months of the Armenian year. These are followed in the Armenian calendar by the five additional days, so that for the remainder of the year the Armenian months begin five days later than the ancient Egyptian calendar. The Alexandrine calendar is still in use in Abyssinia and the Coptic Church.

Jewish Calendar. In the ancient Jewish calendar, intercalation was performed when necessary by repeating the twelfth month, which in post-exilic times was known as Adar. The responsibility for intercalation rested with the public authorities, and in the early centuries of the Christian era was vested in the Sanhedrin, regard being had to the progress of the crops and stock, with a view to the proper celebration of the Passover, which fell in the first month. The months are most commonly designated in the Old Testament and Apocrypha by their numerical order, which is always counted from the spring month of Abib or Nisan. Originally the months had the same names as are found on Phoenician inscriptions, but in post-exilic times the Babylonian names replaced them.

This empirical calendar has been superseded by one based on fixed rules, in which nothing is left to observation or discretion. Intercalation is governed by a 19-year cycle, and so the mean duration of the calendar year is the same as that which was adopted in Babylon in 383 B.C. A common year may contain 353, 354, or 355 days, and an embolistic or leap year 383, 384 or 385 days. Ten of the months have fixed durations, the other two varying according to the requisite length of the year. The intercalary month always contains 30 days. It is placed next before the month Adar, whose name and place it usurps. Adar becomes the second Adar or Veadar.

Babylonia. The main principles of the Babylonian calendar became fixed in the latter half of the third millennium before Christ. The year began in the spring with the month Nisannu. It contained twelve months, the beginnings of which were fixed by observation of the lunar crescent.

In this calendar, as in all lunar calendars except the Mohammedan, one of the months was repeated when necessary, in order to keep each month fixed to a definite season of the year. At Babylon the month so repeated was most commonly the last month, but not infrequently the sixth month, and very occasionally some other month.

The intercalary month was inserted at very irregular intervals, the known intervals varying from six months to six years. From 529 to 504 B.C. an 8-year cycle was in use at Babylon. In this, the length of each month was still determined by observation of the crescent, but the intercalary months occupied fixed places in the cycles, and each cycle of eight years was made to contain 99 months. It is not surprising that this cycle was soon laid aside and arbitrary intercalation resumed.

In 383 B.C., a 19-year cycle of intercalations was introduced, which continued in use as long as a Babylonian calendar can be traced. This provided for seven intercalary months occupying fixed places in each cycle of 19 years, a system retained in the modern Jewish calendar.

Greece. All Greek calendars were lunar until the Roman period. Each community had a separate calendar. Bischoff has succeeded in putting together more or less complete lists of months in about 100 Greek calendars. There was great variety in the season when the year began in different calendars. But each month was kept roughly to one season of the year by the insertion of a thirteenth or intercalary month when required.

In some calendars this was done by repeating the sixth month, in some by repeating the twelfth month. In a few, the intercalary month occupied other positions, and at Athens there are four instances preserved on inscriptions where an intercalation was made at an exceptional place in the year, and it is probable that the same happened elsewhere from time to time. Not only the intercalation of months, but also the regulation of the length of each month, appears to have been always in the hands of the public authorities.

Rome. The Roman calendar, which is now used throughout the whole world, had its origin in the local calendar of the city of Rome. It is generally stated by our ancient authorities that the year of Romulus consisted of 304 days divided into ten months beginning with March, and that Numa introduced a lunar year and added January and February. It may be regarded as certain that the Roman months were originally lunar, and throughout the republican period the normal length of the year remained 355 days, exceeding twelve lunations by 0.63 days.

This small excess could have been compensated by making the inter-

calary month consist sometimes of 27 and sometimes of 28 days. Such a month was in fact inserted, when necessary, after February 23.

The intercalary month was generally inserted in alternate years, but the actual regulation of intercalation was in the hands of the pontifices.

Under the pontificate of Julius Caesar, who became Pontifex Maximus in 63 B.C., intercalation was neglected with such frequency that the Kalends of January, which had fallen on or about December 13 of the subsequent Julian calendar at the close of 64 B.C., fell on October 13 of that calendar at the close of 47 B.C. In order to restore the months to their normal position in the natural year, Caesar not only gave the year corresponding to 46 B.C. the usual intercalation of 23 days after February 23, but inserted two additional intercalary months, amounting together to 67 days, between November and December, so that the Kalends of 45 B.C. fell on what is still called January 1 of the Julian calendar. From that time each month has had its present duration, the sixth day before the Kalends of March being repeated when necessary. This intercalary day was called "ante diem bis sextum Kalendias Martias," or more briefly "bissexturn," whence our word bissextile for leap year.

Caesar's edict requiring the intercalary day to be inserted every fourth year was misunderstood by the pontifices, who reckoned the four years inclusively and intercalated at intervals of three years. In consequence, the year 8 B.C. began three days too late. Augustus rectified this error by omitting all intercalations till 8 A.D., from which date the Julian calendar was observed strictly till the reform of Pope Gregory XIII in 1582 A.D.

The position of the Roman intercalary month agrees with the ancient tradition that March was originally regarded as the first month of the year.

PUBLIC UTILITIES ARE INTERESTED

By J. P. BOWLES

Alexander Hamilton Institute

DETAILED studies of current calendar reform proposals are being made by the public utilities, because there seems to be a definite likelihood of some measure for international revision becoming law within the next few years. The new calendar may be one which will bewilder employees, irritate customers and breed a million difficulties and misunderstandings, or it may be one which slides into operation as smoothly as a new blade into a razor. Mere chance or the whim of legislators may determine the choice. Slight pressure of considered opinion, or expressions of preference from those who have seriously studied the matter, could probably control that chance.

The calendar is a schedule. It is the basis of innumerable other schedules. Public utilities, which take no vacations, holidays or days of rest, are bound to the wheel of the year. More than any other industry, they are interested in any proposed change in the method of subdividing that year. Studies thus far made by the utilities indicate that a 13-month calendar would be confusing, expensive and complicating. Inadequate as the existing calendar is, it is probably preferable to a 13-month system. The fault in this proposal obviously is that it would largely increase the inconvenience of present arrangements, and instead of simplifying them, would render them more complex.

CURRENT PRESS COMMENT

Measuring Time

Worcester (Mass.) Telegram

Every attempt to divide the year into 13 regular months has encountered mathematical difficulties. The simplicity of the proposed World Calendar and the minimum of adjustments it would require are points in its favor.

Currency of Life

Washington Post

Time has become more important than it ever was before. "It is as a currency of life," says P. W. Wilson, British author, "that time has to be watched, measured and allotted. We are, as never before, time conscious, and the consideration of calendar irregularities and deficiencies thus accords with our habitual mood."

Many Superiorities

St. Peter (Minn.) Herald

Dr. J. P. Uhler, astronomer and physicist at Gustavus Adolphus College, is one of the recent converts to calendar reform movement now being ardently advocated throughout the civilized world. He has declared in favor of the calendar recently devised by The World Calendar Association, which is to be presented to the League of Nations at Geneva in 1935 for formal action.

The new calendar, Dr. Uhler states, will have many superiorities over the old one.

World Movement

Dallas (Texas) Herald

Calendar reform is naturally a world movement. Little is accomplished through changes authorized by a single nation, as has been done on many occasions in the past.

On the whole, the calendar reformers appear to be growing more conservative in their suggestions. A week of seven days and a year of twelve months appear to be accepted as inevitable. The new calendar that is receiving the most serious consid-

eration at this time includes those time-honored features. It sets up four months of 31 days and eight of 30 days, and slips in one extra day at the end of each year.

Plenty of Objections

Coshocton (Ohio) Tribune

Against the proposed 13-month year, there will be plenty of objections. It cannot be divided into convenient halves or quarters. Books would have to be balanced and rent paid 13 instead of 12 times a year. The new month (to be called Sol and inserted between June and July) would play havoc with birthdays and anniversaries. The superstitious would shudder to contemplate a calendar with 13 Fridays the thirteenth. Another reform group is in the fray, with a revised 12-month calendar, consisting of four equal quarters of 91 days each, also with a "year day." The NRA will have a fight on its hands if it espouses the 13-month calendar cause.

Serious Consideration

Webster (Mass.) Times

The changes that have occurred in this world in the past few years may be paving the way for the revision in the calendar, which has met with the approval of so many leaders, but which has yet to be endorsed by the League of Nations, although serious consideration is being given to the plan. Two propositions, one a 13-month calendar and the other of 12 months, are being considered.

The calendar of 12 months appears to have a more general appeal, especially among those who have made a study of calendar reform. It is believed by many that the 13-month proposition eliminates the convenience of semi-annual, quarterly or bi-monthly reckoning.

13 Rent Days

Wheeling (W. Va.) Register

No one would vote for the new calendar if it carried the threat of 13, instead of 12 rent days a year.

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NEWS dispatches from Washington, published recently, inform the world that "economic planning and need for more reliable statistics" are causing officials to point to a 13-period accounting system as "a probable development from codification of industry."

This of course is merely another example of biased and unscrupulous propaganda. Muddled thinking causes certain minds to leap to the conclusion that a 13-period accounting system, as used in a few specialized trades and industries, means a 13-month calendar. Calendar reform and the 13-month system are by no means synonymous. And the 13-month accounting system is merely a statistical device which has no place in the discussion of calendar reform.

The whole presentation of a 13-period accounting system is "incomplete and misleading," observes Edward S. Schwegler in the Buffalo *Evening News*. He adds: "There are two proposals for a permanent calendar. One is the 12-month equal-quarters plan. This, like the 13-month proposal, posits one or two extra-calendrical days in the year, and so produces 364 days and permanence; but it advocates 31-30-30 days for each of the four quarters, instead of 13 months without clear-cut quarters.

"Many scientists and statisticians have given their support to the 12-month plan, being decidedly opposed to the other plan. They emphasize the ease with which the number 12 lends itself to calculations.

"In statistics the comparison of a given month in a year with the corresponding month of another year is of greater importance than the comparison of various months in the same year with each other. It is the permanent recurrence of the same period year after year that counts, and such recurrence is produced just as well by the 12-month as by the 13-month scheme. Besides, the latter plan does not, and cannot, make its 13 months in a given year comparable with each other, for as long as people are human there will be holidays and anniversaries which will vary in number and relative position."

The news dispatches to which Dr. Schwegler refers are a good example of current widespread misunderstandings and misstatements regarding economic fundamentals.

FROM THE MAILBAG

When the 13-month year was proposed with what seemed a prospect of success I was for it although I had a feeling that its adoption would be difficult. Since studying the matter further I find it quite easy to prefer the so-called World Calendar with similar quarters instead of similar months and hope that this may become the universal calendar while I am still on earth.—B. F. Affleck, President, Universal Portland Cement Co., Chicago.

I am heartily in sympathy with The World Calendar as now arranged, and hope it may be adopted and put into effect by 1939. Why have 14 different annual calendars, with 28 different "months," when we can have one annual calendar and only three kinds of months?—S. W. Boggs, Geographer, Dept. of State, Washington, D. C.

Your work is continuing to attract serious attention to the desirability of calendar change.—H. Edmund Bullis, New York, N. Y.

I eagerly study all data on calendar reform and your quarterly Journal is the best I have perused. In railroad freight accounting, all on a monthly basis, your perpetual calendar would certainly be a boon.—E. R. Hahn, Auditor, Denver and Rio Grande R. R., Denver.

For many years I have been interested in calendar reform. I at first favored the 13-month plan, despite some obvious disadvantages. I now think the plan set forth by you is more practical and would stand a much better chance of adoption.—D. M. Miner, Washington, D. C.

The necessity for a commensurability between the months of the year and the degrees of the circle is a new argument, and a very convincing one. Also, do any of us wish to have the annoyance of month end bills repeated a thirteenth time each year?—Prof. Ewing C. Scott, Sweet Briar, Va.

I am opposed to a 13-month calendar, and when and if a change is made, I hope the arrangement of the calendar as suggested by you will be adopted. It will cause less confusion in all lines of busi-

ness than would any other change yet suggested.—J. W. Stamps, St. Augustine, Fla.

I think The World Calendar plan is perfectly grand, and very sensible.—O. W. Knauth, R. H. Macy and Co., New York City.

The world is becoming one in many ways, and nothing in present day life is more important for all peoples to realize than this evident fact. The calendar reform movement is contributing to this tendency.—Freeman H. Allen, Colgate Univ., Hamilton, N. Y.

I appreciate your kindness in sending me the Journal, and I take a great deal of interest in reading the articles before passing them on to my friends. I may state that I am now a disciple in behalf of The World Calendar movement.—Maurice R. Barnes, Treasury Dept., Washington, D. C.

I am heartily in favor of the 12-month year divided into four identical parts. All my life I have been connected with organizations which when planning future activities have had to battle with an awkward calendar.—Clinton C. Hubbell, Norwalk, Conn.

I appreciate the Journal of Calendar Reform and consider the proposal of The World Calendar sane, safe, and just as sanctified as the present or any other system. I hope something definite will be done to bring the needed reform to pass. In the meantime, there is nothing like persistent education to lay the foundation.—Ernest F. McGregor, Clergyman, Norwalk, Conn.

I find no fault with your reformed 12-month World Calendar. Further I think that possibly the simplest and most effective way of putting it into operation was suggested by Hayne Davis in your June, 1933, issue of the Journal of Calendar Reform.—F. S. Brong, Editor, West Liberty, Ky.

I think the proposed calendar is practical, the first one proposed that has real sense.—S. W. Odell, Lawyer, Santa Monica, Cal.

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